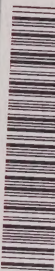


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STUDENT LOANS: A REAPPRAISAL...with
special reference to Ontario's and Canada's
changing needs in educational finance

by

E. G. WEST*

Assisted by Michael McKee



Ontario Economic Council

Toronto, Ontario



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Working Paper No. 4/75

December, 1975

The opinions expressed in this paper are the author's and do not
necessarily reflect the views of the Ontario Economic Council.

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ERRATA

Page 8, Line 12 - \$7,000 should read \$9,600

Page 10, Line 14 - \$7,000 should read \$9,600

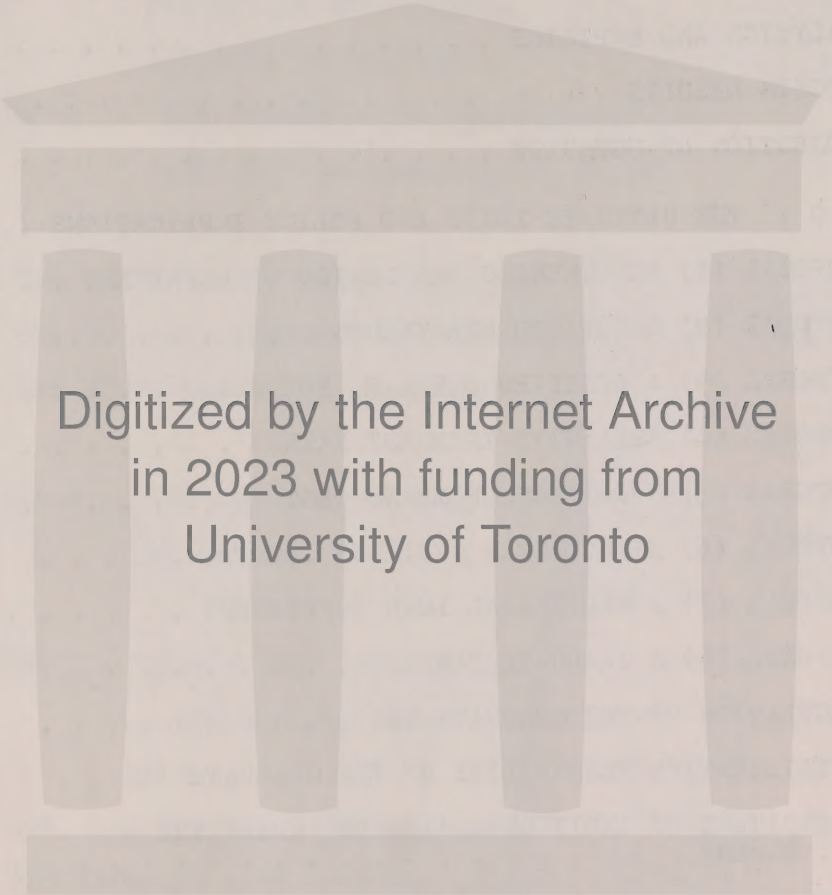
Page 15, Line 18 - \$7,000 should read \$9,600

ADDENDUM

Page 8, after the last sentence add: "While there is no regular machinery for this process in certain special cases the income tax authorities have co-operated with the Guaranteed Loans Administration in the pursuit of student loan defaulters."

TABLE OF CONTENTS

PREFACE	
INTRODUCTION :	
CHAPTER 1 :	THE BASIC ISSUES 1
THE CANADA STUDENT LOAN PLAN ..	8
THE ONTARIO STUDENT ASSISTANCE PLAN (O.S.A.P.).....	10
THE U.S. GUARANTEED STUDENT LOAN PROGRAM	14
DEFAULT RATES	16
THE REPAYMENT PERIOD	20
REPAYMENT RATES	21
IMPROVING THE LIQUIDITY PROBLEM	22
EQUITY	23
PRACTICAL PROPOSALS	25
CHAPTER 2 :	EFFICIENCY IN EDUCATIONAL FINANCE : THE
GOVERNMENT'S COMPARATIVE ADVANTAGE	27
CHAPTER 3 :	EQUITY IN HIGHER EDUCATION : DOES IT
COMPETE WITH EFFICIENCY? ;	41
THE EQUITY/EFFICIENCY TRADE-OFF ARGUMENT	49
INCOME EGALITARIANISM	54
SPECIFIC EGALITARIANISM	55
FISCAL EQUITY AND THE CURRENT CONTROVERSY	57
THE 'FAMILY' VERSUS THE 'INDIVIDUAL ADULT'	63



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FIGURES

1.1	UNIVERSITY ENROLLMENTS IN ONTARIO	3
1.2	PER STUDENT EDUCATION COSTS IN ONTARIO UNIVERSITIES .	7
2.1	DEMAND AND SUPPLY FOR LOANS	29
4.1		
&	PUBLIC AND PRIVATE DEMAND FOR EDUCATION	71
4.2		
4.3	EXPANSION OF PRIVATE DEMAND FOR EDUCATION	74
4.4	ENROLLMENTS BY INCOME CLASS	78
5.1	BREAK-EVEN COMBINATION OF LOAN TERMS	127
8.1	GROWTH OF STUDENT LOAN DEFAULTS IN CANADA (CSLP) . .	181
9.1		
&	PUBLIC AND PRIVATE DEMAND FOR EDUCATION	200
9.2		

TABLES

1.1	EDUCATIONAL EXPENDITURES IN ONTARIO UNIVERSITIES . .	2
1.2	ENROLLMENTS	2
1.3	PARTICIPATION RATES : ONTARIO AND ALBERTA	6
1.4	ONTARIO STUDENT LOAN PLAN (OSAP) : SOME RECENT STATISTICS.	11
1.5	CANADIAN PROVINCIAL AID PACKAGES 1973-74	12
3.1	TOTAL TAX PAYMENTS BY REGIONS, 1969	43
3.2	THE DISTRIBUTION OF FEDERAL EXPENDITURE ON POST-SECONDARY EDUCATION, 1969	45
3.3	AVERAGE FAMILY COST AND BENEFITS	59
3.A	FEDERAL TAXES BY REGION, 1969	66
3.B	PROVINCIAL TAXES BY REGION, 1969	67

TABLES (continued)

3.C	LOCAL TAXES BY PROVINCE, 1969	68
5.1	PROPOSED FEES AND GRANTS	93
5.2	COSTS AND SUBSIDIES OF ENROLLMENT CLASSES	94
5.3	PRIVATE RETURNS BY PROGRAM	95
7.1	YALE T.P.O. PARTICIPATION	137
7.2	YALE PREFERENCES FOR ADDITIONAL FINANCE	139
7.3	INCOME EXPECTATIONS OF MEN	142
8.1	DEFAULT GROWTH UNDER THE CSLP	156
8.2	REASONS FOR DEFAULTS : CANADA	157
8.3	REASONS FOR DEFAULTS : U.S.A.	158
8.4	DEFAULT RATES CSLP (1973)	162
8.5	DISCRIM RESULTS (a) DATA SCALING	170
	(b) UNIVARIATE F - TESTS	172
	(c) G - MEANS	172
8.6	CHARACTERISTICS OF DEFAULTERS IN ONTARIO	175
8.7	LABOUR FORCE STATUS OF SCHOOL LEAVERS	182
8.8	ANNUAL DISCRIMINANT ANALYSIS	183
9.1	PRIVATE SHARE IN THE COST OF EDUCATION	202

PREFACE

There is an explicit presumption in economics that the private capital market in the area of educational finance is pronouncedly imperfect. Another, implicit, presumption is that government can efficiently fill the 'gap'. The latter however is no more than a hypothesis; and hitherto it has been without empirical verification. Supporting evidence is needed to show that the 'true' costs of borrowing in government schemes are in fact lower than those in the parallel private capital market. Thus the difference between the costs in a public system, such as the Canada Student Loan Plan, and the market alternative could provide one measure of government's comparative advantage. It was the quest for such information that provided the original motivation for this study.

Preliminary enquiry indicated that the true costs of the public system were high; and sufficiently so to challenge the view that a comparative advantage existed - or even, more disturbingly, to suggest that there might be a comparative disadvantage. One of the most significant elements of concealed costs in government sponsored lending, turned out to be a high default rate. Accordingly we originally decided on a concentrated investigation on this subject exclusively. We wished to determine the characteristics of typical defaulters, to examine any special or temporary circumstances that might prevail, and to suggest changes that stood a chance of reversing the present upward trend in default rates. But whilst the present volume contains much material on defaults the total study is not devoted exclusively to this issue.

The explicit tasks of this investigation are : To analyse the nature of government's potential comparative

advantages or disadvantages on grounds of efficiency and equity in providing educational loans; to investigate the comparative effectiveness of actual loan schemes in Canada, America and Scandinavia; and finally to undertake a comprehensive appraisal of the student loan programme available in Ontario.

After a new and thorough scrutiny of first principles we point to crucial areas where we believe conventional public loan plans have become inefficient, and where it would be better to rely on alternative or modified systems. Hopefully our argument will be of service to a wider audience than Ontario's or Canada's. Canada however is in a good position to learn from the mistakes of others; and especially from her neighbour America where the largest (and perhaps least reversible) institutional developments in student lending have already occurred.

We have had only just over one year to produce this book. Needless to say such a schedule is normally too short for a work of this complexity. Despite the time constraints however we have managed to produce new and relevant evidence especially on 'capital market imperfections' and default rates. The evidence is used in the context of a wide ranging investigation and discussion progressing through a series of analyses of the separate aspects of the higher education finance debate. These are recapitulated in one 'key' final chapter. Our policy recommendations are associated closely with the theoretical findings. The study should be read as a whole, and the chapters in sequence, in order to appreciate the unfolding argument.

Chapter 5 is based on our article published in Higher Education Vol 3, 1974. Much of the argument in Chapter 3 had been largely developed in an (unpublished) manuscript at the end of 1973. Michael McKee has been responsible for much of the

empirical work, especially in Chapter 8.

We are grateful for conferences with Mr. G. Sheehy, Toronto Dominion Bank, York University; Mr. F. C. Passy and staff at the Guaranteed Loans Administration, Department of Finance, Ottawa; Mr. Bonner of the Ontario Branch in Toronto; and Mr. P. Tietzen, Chairman of the Alberta Student Loan Programme; and Professor Irwin Gillespie, Carleton University. For up-to-date (1974) details of American experience we are grateful to Dr. R. Wedermeyer of the Illinois Student Loan Office; William J. Ickinger, Acting Director of the Yale University Tuition Postponement Plan; the staff of the Student Loans division at the Western Interstate Commission on Higher Education (WICHE), Boulder Colorado; and Mr. Dennis A. Kernhan of the new Student Loan Marketing Association, Washington. On the economic theory of optimal loans systems, we were especially fortunate in having several discussions at the University of California (Berkeley campus) with Professor Andre Daniere. On the subject of capital market imperfections we profited considerably from conversation with Professor Joseph Stiglitz at Stanford. Finally we have benefited from comments from Professor Douglas Windham of the Comparative Education Center, the University of Chicago and from Professor George Stigler of the Business School at the University of Chicago.

June 1975

E. G. West

Chapter 1

THE BASIC ISSUES

We begin with two well-known facts. First: the costs of education are increasing faster than the average cost of living, a trend that, according to all the writers we have consulted, will be strong and continuing into the foreseeable future. Second, since the beginning of the seventies, there has been something in the nature of 'taxpayers' resistance', or a political 'cooling' towards higher education. Tables 1 and 2 and Figures 1 and 2 illustrate this latter fact for Ontario universities. Table 1 shows that since 1963 and 1972 total expenditure, even after adjustments for inflation, increased over three and a half times. It shows also the clear slowdown in the rate of growth after 1968 and the absolute fall in expenditures between 1971 and 72. Table 2 shows the parallel levelling off in enrollments.

In America, taxpayer resistance has been even more pronounced after the five-fold increase in expenditures over the last three decades. In New York, support by the state for higher education climbed from \$100 million in 1960 to over \$1 billion in 1972. The cost of a college education in America rose to nearly 36 percent in real terms between 1970 - 1974. A student living on campus at an average four

1. The best account of these two facts in Canada is in the Commission on Post-Secondary Education's Report 1972. The best known writing on the same theme in America is Earl Cheit, The New Depression in Higher Education, Carnegie Commission series, February 1971.

TABLE 1

Educational expenditures (constant dollars) - Ontario Universities

<u>Year</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
Instruction	58,710***	68,254	83,164	114,394	149,991	188,583	196,786	224,871	286,731	332,935
Total	95,600***	117,686	142,147	192,830	259,722	312,796	362,643	407,574	459,578	533,634

*

TABLE 2

Enrollments in Ontario Universities

<u>Year</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
Full-Time	68,589	78,089	92,589	108,824	121,115	134,419	135,024
Part-Time	<u>27,860</u>	<u>31,029</u>	<u>37,796</u>	<u>45,669</u>	<u>57,125</u>	<u>57,197</u>	<u>61,024</u>
Full-Time Equivalent	76,549	86,954	103,387	121,873	137,436	150,834	152,691

*Note : in 1972 the universities charged their fiscal year end from April 30th to June 30th requiring the figures for 1972 to be adjusted accordingly - and this has been done here to obtain a 12 month equivalent estimate. Table 1 Source : Statistics Canada, "Survey of Education Finance" Cat. No 81 - 208. Figures expressed in 1961 Constant dollars using GNE deflator. This understates

education price inflation since education is part of the service sector - which is labour intensive to

Table 2 Source : Statistics Canada, "Fall Enrollment in Universities and

Colleges," Cat. No 81 - 204. Conversion factor used on part-time enrollment is 3.5. This yield the Full Time Equivalent.

FIGURE 1UNIVERSITY ENROLLMENTS IN ONTARIO 1966 - 1972
(Full-Time and Full-Time Equivalent)

Source : See Table 2.

No.

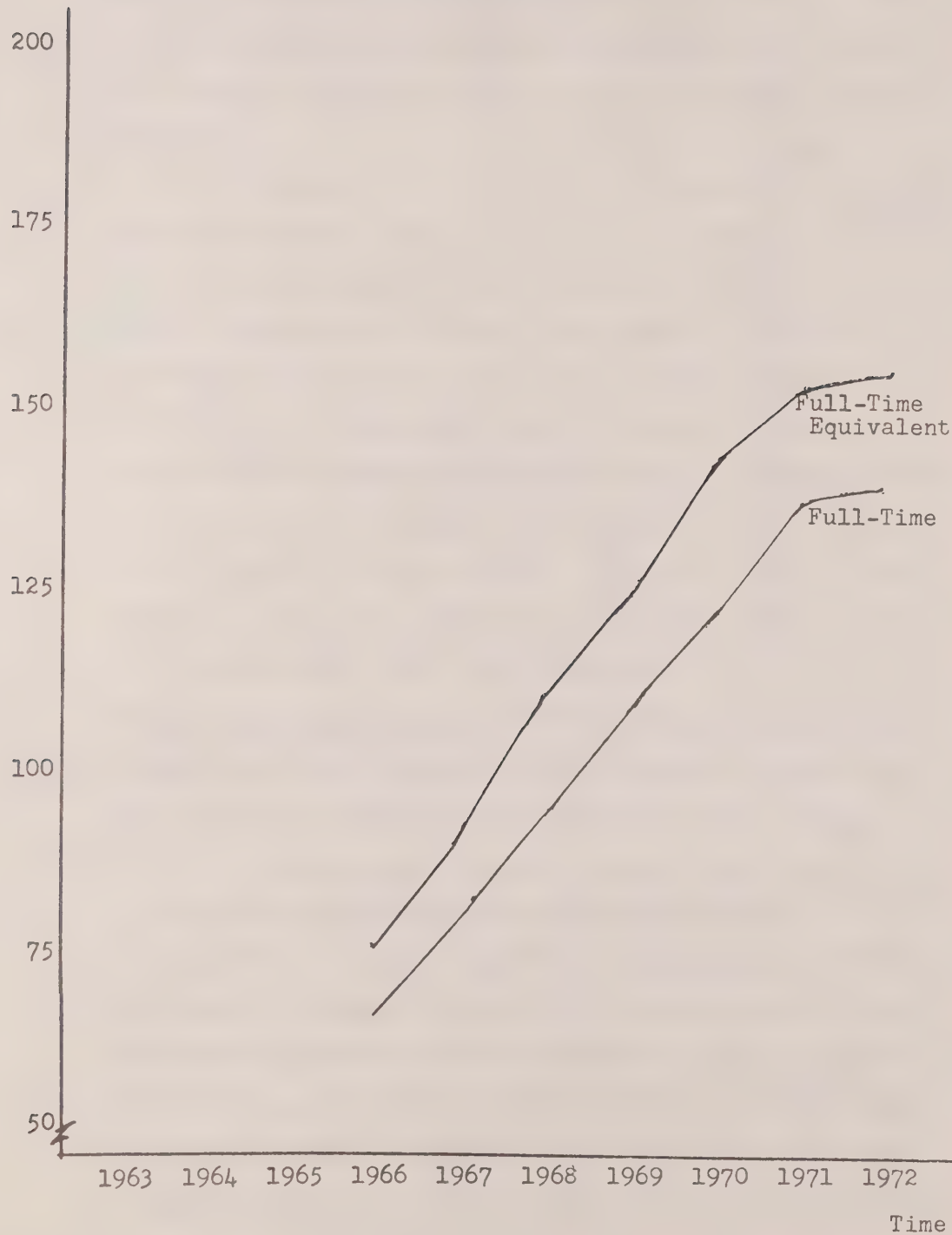
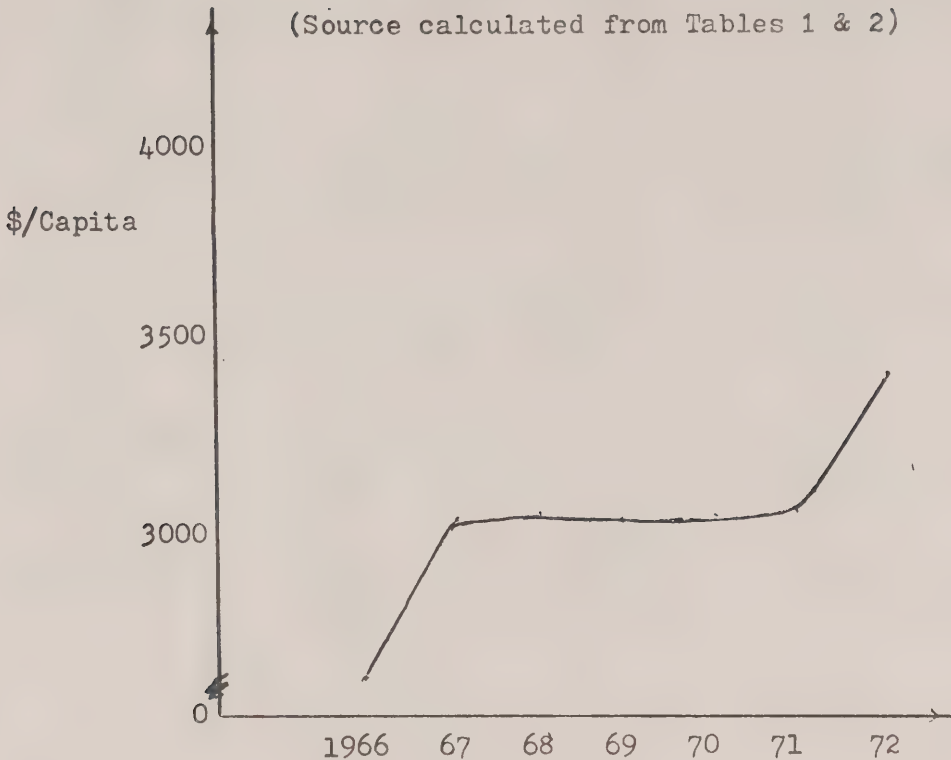


FIGURE 2

PER STUDENT EDUCATION COSTS
ONTARIO UNIVERSITIES
1966 - 1972

(Source calculated from Tables 1 & 2)



year private college had to pay \$4,039 this current year (1974-75), which was \$346 more than the previous year. Tuition at American four year public institutions is now increasing at a faster rate than at private institutions.

Since traditional sources of support, parents, alumni, and government, seem less willing, less able, or both, to pay the bills, increasing attention is being given to the potential for students to meet a greater share of their costs through loans. On American experience it seems that, like it or not, Canada will soon have to go very much further in reliance on loan financing or some

similar alternative. In the year ending 1972 one and a half million students in America borrowed more than one and a half billion dollars; that is over a thousand dollars per student- which was twice as much as in Ontario in the same year.

Concern will no doubt be expressed about the effect upon enrollments. This, of course, is an empirical matter. We can already make some general observations on it. First, whilst Americans make twice as much use of loans, their enrollment and participation rates in post-secondary education are considerably higher. A more interesting comparison is between Ontario and Alberta. Alberta relies entirely on loans to enable the student to cover tuition fees. Loans can be up to \$4600 in one year for any one student. True, the tuition rates are lower (about \$200); but this does not offset the greater loan dependency. Table 3 suggests there is no significant difference in the enrollment rates in the two provinces; and it is relevant that per capita incomes are fairly similar in both areas.

On the assumption of continued budget restrictions it would be pointless to explore the loan finance avenues if the loans were planned to feature considerable interest forgiveness and default as to make very little difference between loans and grants. Consider for instance a loan of a thousand dollars to a student in a four year institution who has

TABLE 3
PARTICIPATION RATES IN POST-SECONDARY EDUCATION
FOR ONTARIO AND ALBERTA (FOR 18 TO 24 YEAR OLDS)

Year :	Ontario		Alberta	
	M %	F %	M %	F %
1967	14.2	6.3	15.7	9.2
1968	15.4	7.3	18.6	11.1
1969	22.7	12.7	27.5	18.6
1970	23.8	13.3	25.8	17.2

to repay ten years after he graduates. Assume that he repays at the end of the fourteenth year but that he is charged no interest. If the private market rate is 12% (not an unrealistic rate these days) then the loan privilege has a present value to the student of \$833. If special administrative costs and default costs etc. amount to a present value of say \$200 then, on balance, it would cost the taxpayer less to grant a thousand dollars rather than lend it.^{2/} It is of course true that if there is any positive return to the government (or other lender) from a loan plan (after administration costs) it will be less costly than an outright grant of the same amount as the initial loan. We merely wish to caution against exaggeration of the benefits. A rate of interest charged to the student that is substantially below market rate of interest can amount to a large subsidy effect, and especially during heavy inflation. If 'taxpayer resistance' is an assumed fact it is better to face these implications of 'cheap rate' loan schemes from the start.

There are, of course, different possible degrees of taxpayer resistance. One form that it could take would be a refusal to increase the proportion of national income going to higher education. In the

^{2/} It is conceded that the taxpayer, as government, does not pay as much as the private rate. Nevertheless 12 per cent is a meaningful opportunity cost measure to the taxpayer as a private citizen.

future, so long as national income grows, some increase in the absolute amount of subsidizing would be expected. Another and more severe degree of taxpayer resistance would be a freeze upon the absolute size of the subsidy. Under this assumption loan schemes will only be viable and useful if they increase the financial contributions of the student body as a class. This does not imply however that all students need face the same loan price. It can be arranged that students in a given cohort, whose future incomes turn out to be disappointing can pay less for their loans (and at the extreme be forgiven) provided that students in the opposite category, that is the richer students, or those whose lifetime incomes turn out to be well above average, pay so much in excess of the average rate as to 'cross-subsidize' (ex post) within the student group. This of course is an example of the contingent student loan, bearing in mind that such a system is not always, or necessarily, self-financing. The basic idea is that students repay in proportion to their future income records. The amounts forgiven to those who do not prosper can be covered to some extent from those who are fortunate that the scheme as a whole is self-financing. Where all the 'subsidy' to the least prosperous comes from the most prosperous in the student group, we say that the scheme is completely self-financing since it is internally 'subsidized' (ex post), or mutualized. Where the least prosperous are also financed to some extent by the taxpayer, we say that the scheme is externally subsidized.

There is no contingency element in the Canada

Student Loan Plan. Since this and other shortcomings with it will be examined in this Report, this will be the most convenient place to summarize the CSLP machinery as it now stands, to focus on other aspects that will be treated later and compare the 'opposite number' in America - The Guaranteed Student Loans Plan (GSLP).

The Canada Student Loan Plan (C.S.L.P.)

Established to provide loans to students in full-time attendance at post-secondary educational institutions, the C.S.L.P. as of 1974 provides up to a maximum annual loan of \$1400, and a maximum total loan of \$7000 for any one student. Interest on loans is forgiven as long as the student is in full-time educational attendance and for six months thereafter. The rate charged to students is an average of bond rates. It was, for instance, 7.875 percent in 1973. Loans are paid through chartered banks and other designated lenders. Losses caused by defaults (and death) are not borne by the banks but by the federal government and ultimately by taxpayers. The banks have little incentive, therefore, efficiently to follow up defaulters. The Canada Student Loans Office uses a special private collection agency to perform this function. The agency charges 20 percent of all defaults recovered. The C.S.L.P. authorities have no legal right to pursue defaulters through the income tax or social security offices.

The loan is medium term, full repayment being due up to ten years after leaving college. The repayments are not graduated but are flat sums per year; they are not geared to income. Eligibility for a student loan is determined by a means test related to educational costs and resources of the student and his family. In addition students are only eligible if:

- (1) They are Canadian citizens, or have landed immigrant status and a year's residence in Canada;
- (2) are resident in a participating province;
- (3) have evidence that they have attained a satisfactory scholastic standard;
- (4) are enrolled in a designated institution for a semester of not less than thirteen weeks duration;
- (5) are full-time students.

A province may authorize loans in any academic year to a maximum of its share of the total loan provision. The loan provision is allocated among the provinces in the same proportion as the 18-24 year age group in a province forms of the national population in that age group. Provinces that opt out of the scheme receive an alternative payment equal to the same proportion of payments made by the federal government for interest and other charges as the population age 18-24 in the province forms of the population aged 18-24 in participating provinces.

We referred earlier to the possibility of external subsidization in loan plans. These are more likely to occur in non-contingent schemes like Canada's. The fact that the C.S.L.P. loans have to be 'rationed' indicates one sense of subsidy because the taxpayer, as government, abstains from allowing the loan interest (price) to rise to market clearing levels. A second form of subsidy is the forgiveness of interest during college attendance and six months thereafter. A third, and perhaps most important subsidy, is the federal coverage of default costs. Canada Student Loans now have a delinquency rate of over 6 per cent of the loan volume and value (see Chapter 8).

The Ontario Student Assistance Plan (O.S.A.P.)

Whilst the Federal Government provides up to \$1400 annual and up to \$7000 total loan per student in Canada, in practice the finance is channelled through the Provincial governments. The latter can then distribute the loan facility in individual packages peculiar to each Province. The Provincial government can for instance use its discretion to 'splice' on to the package some element of grant. The Ontario Plan (O.S.A.P.) provides the first \$800 in Canada Student loan and the remainder of need is Ontario Grant. Table 4 provides the latest information on numbers of students requiring loan and grants together with the aggregate values. It shows that the aggregate amount in loans compared to aggregate grants increased fairly significantly between 1971 and 1974. The increase was modest however when compared with U.S. experience. In the latter country between 1970 - 72 there was over 100 per cent increase in aggregate loans compared with a

mere 14 per cent increase over the same period in Ontario.^{1/}

In the proportion of the Ontario financing provided in grants as distinct from loans the province is relatively generous compared with others. This comparison can be obtained from Table 5. Notice especially the great reliance on loans in Alberta.

TABLE 4

THE ONTARIO STUDENT LOAN PLAN (O.S.A.P.) : SOME RECENT STATISTICS

Applications for loans :

<u>70 - 71</u>	<u>71 - 72</u>	<u>72 - 73</u>	<u>73 - 74</u>
80,490	79,486	75,677	90,207

Receiving Assistance :

72,613	65,329	69,934	77,143
--------	--------	--------	--------

Loans :

67,143	61,748	59,787	75,744
--------	--------	--------	--------

Grants :

61,481	44,997	35,864	51,332
--------	--------	--------	--------

\$ Amount Loans :

38,860,000	35,375,000	44,270,000	52,868,000
------------	------------	------------	------------

\$ Amount Grants :

35,559,000	29,793,000	21,039,000	32,345,000
------------	------------	------------	------------

^{1/} U.S. data from : Financing Postsecondary Education in the U.S.
The National Commission on the Financing of Postsecondary Education
December 1973, Table 3-14.

TABLE 5

CANADIAN PROVINCIAL AID PACKAGES 1973-74

Province	Aid Package
Newfoundland	Memorial University: First \$700 per semester is Canada Student Loan; Next \$800 per semester is Nfld. bursary
	Outside Memorial University: \$1400 Canada Student Loan per academic year
Prince Edward Island	First \$1400 per academic year is Canada Student Loan; next \$1000 is P.E.I. bursary
Nova Scotia	First \$1400 per academic year is Canada Student Loan; next \$1000 is N.S. bursary
New Brunswick	First \$1100 per academic year is Canada Student Loan; next \$700 is N.B. bursary; next \$300 is Canada Student Loan
Quebec	Quebec Student Loans and bursaries available at all universities, CEGEPS and colleges accepted by the Department of Education in Quebec, in the amount of: College or vocational level: loan \$500, bursary \$1400 University 1st, 2nd or 3rd year: loan \$700, bursary \$1600 University 4th, 5th year or above: loan \$800, bursary \$1700 Quebec Student Loans are available at other recognized universities outside Quebec; colleges recognized in Quebec and holding a teaching permit for college level in the amount of \$1400 per academic year.

Ontario	First \$800 is Canada Student Loan; remainder of need is Ontario Grant.
Manitoba	Combination of \$1400 Canada Student Loan and \$1400 Manitoba Bursary, depending on circumstances
Saskatchewan	First \$700 is Canada Student Loan or Saskatchewan Student Loan (available to students not eligible for Canada Student Loans; remainder is graduated combination of loan and bursary to a total maximum of \$2250 (loan \$1400, bursary \$850)
Alberta	First \$1400 Canada Student Loan or Alberta Student Loan (where student is not eligible for Canada Student Loans) and remainder in Alberta Student Loan to a possible maximum of \$4600 in a twelve month period
British Columbia	For an academic year if need is \$300 or less, it is given in Canada Student Loan; \$301 to \$499, \$100 is B.C. bursary and the rest is Canada Student Loan; \$500 to \$799, \$200 is B.C. bursary and the rest is Canada Student Loan; \$800 to \$1099, \$300 is B.C. bursary and the rest is Canada Student Loan; \$1100 to \$1800, \$400 is B.C. bursary and the rest is Canada Student Loan.
	In all cases loan is given first.
Northwest Territories	\$1400 Canada Student Loan per academic year; Northwest Territories Bursaries and living allowance grants are given separately.
Yukon Territories	\$1400 Canada Student Loan per academic year.

The Guaranteed Student Loan Program

The parallel scheme in America is the G.S.L.P. The U.S. Office of Education coordinates and administers a program of low-interest long-term loans for students attending over 8,000 eligible colleges and universities (both in the United States and abroad) and vocational, technical, business and trade schools. The loan monies are provided by participating lending institutions, including commercial banks, savings and loan associations, credit unions, insurance companies, pension funds, and some eligible educational institutions. The loans are insured by a State or private non-profit agency or by the Federal Government. All Federal, State or private non-profit programs under the Higher Education Act, as amended, are collectively referred to as the Guaranteed Student Loan Program.

A student is generally eligible to borrow if he is enrolled and in good standing or accepted for enrollment at an eligible educational institution on at least a half-time basis. The maximum amount which may be borrowed per academic year is \$2,500 with a maximum \$7,500 aggregate outstanding. These maximums apply to all loans received under Federal, State and private programs of insured loans and direct State loan programs covered under the Higher Education Act. If the student's adjusted family income is less than \$15,000, the Federal Government will pay the interest on the loan until the repayment period begins and also during periods of authorized deferment of repayment of principal. Except during such deferment periods, the student pays the total interest not to exceed 7 per cent per year, during repayment which starts 9-12 months after graduation, withdrawal from school or upon ceasing to be enrolled on at least a half-time basis. A period of 5 to 10 years is allowed for repayment with a required minimum payment of \$360 per year (on loans outstanding under all

the above mentioned programs) which can require a shorter period. Lenders are required to allow deferments of principal repayment under the Federal Insured Student Loan Program and State and private guarantee agencies are encouraged to require or allow such deferments for students returning to school full time and up to 3 years each for service in the Armed Forces, Peace Corps, or VISTA. A loan must be repaid within 15 years from the date of disbursement.

The student arranges for his loan through a participating lender. Applications are available from lenders, schools, State guarantee agencies and Office of Education Regional Offices.

America's plan obviously differs in some respects from the Canadian. The maximum amount which can be borrowed in any one year in America is \$2500 (as against \$1400). The maximum aggregate outstanding loan allowed is \$7500 (\$7000 in Canada). The interest rate is fixed at 7 percent whereas the C.S.L.P. rate fluctuates with bond rates and is at present nearly 8 percent. A more important difference is that loans are not 'rationed' or means-tested according to a student's family income. True there is one type of means test, but this is only to select those who shall have the privilege of interest forgiveness during college attendance.

Like the C.S.L.P. the American version carries

subsidies at various levels of 'visibility.' First, there is the subsidized interest rate (7 percent in 1974 is well below market rates). Second, there is the interest forgiveness at college. Third, and again most important, there is the taxpayer's assumption of the necessary default costs. (Defaults in 1974 are already 7.2 percent of the value of payments due.) In Chapter 7 we examine some private or 'local' loan schemes. But there too we shall find a default problem in both America and Canada of disturbing proportions.

Default Rates

One way of attacking the growing default problem is to focus upon the default rate itself with the aim of trying to reduce it. Our volume devotes some time to this problem. We make use of a special study on the Illinois default problem published in 1974 by R.H. Wedermeyer.^{3/} In addition we are beginning to break down the figures of Canadian defaults from data now being supplied to us from the Ottawa office. There is no doubt that such a search for policies to improve the default rate has to be a central requirement of any future loans strategy. It is significant that in America, while a major goal of the President's student aid policy stated in his 1974 budget message was the expansion of the Guaranteed Student Loan Program, most of the actual increases he requested for fiscal 1975 were not to make new or larger loans, but to pay for the pro-

^{3/} R.H. Wedermeyer "The Identification of Potential Defaults And The Development of A Program to Assist Them In the Illinois Guaranteed Student Loan Program" unpublished Ph.D. Thesis. North Western University, Evanston, Illinois, 1974.

gram's rapidly increasing defaults. Of the \$31 million increase over last year's budget request for the program, \$26 million is targeted for defaults. The estimated costs of defaults in America has risen over the past three years from forty-six million dollars in fiscal 1973, to eighty-eight million dollars in fiscal 1974, to the one hundred and fifteen million dollars that has been requested to cover them for fiscal 1975. In coping with the problem Congress instituted last year a needs test to determine if students were receiving excess aid. Health and Welfare officials have now made clear that they intend to do something about the growing default rate. Specific objectives will include improvements in collections on defaulted loans, debtor monitorings of participating schools and lenders, greater efforts at informing students of their loan obligations, and improved management information systems. To accomplish that goal they have asked for 30 new positions in their department bringing the manpower to police defaults to about 15% of the total employment in H.E.W.'s education division.

However much the default rate will be reduced, it is not likely to be abolished altogether. Even with finance company loans, which many regard as comparable, there is a default rate of 2.5% (see Chapters 6 & 8). The question therefore remains as to how to finance the unavoidable, minimum default rates plus explicit forgiveness elements in the loan systems. An internally subsidized, or fully mutualizing, income contingency scheme would cover these

extra costs in a higher interest rate upon the successful. Students with good prospects will not like to join these schemes however if they contain a very heterogeneous group of students including a large number of students with poor prospects. But we can expect private loan schemes to emerge wherein student borrowers risk-rate themselves. The high income exectors will choose plans which provide moderate protection mutualized among students with similar earnings potential. The basis for mutualization is an analogy to the pooling of risk in an open market. This self-selected kind of risk-pooling has already emerged in America. The best example we can think of is the well-known Yale scheme. Although the point is not usually made it remains true that students at Yale have above average expectations of income earning since it takes in above average students. For this reason they have been reasonably willing to participate in the Yale contingent loan plan. In the 1972-1973 academic year Yale's Tuition Postponement Option allowed students to defer from \$300 to \$1150 of tuition, room, and board fees in return for an obligation to repay Yale 0.4% of their annual adjusted income per \$1000 deferred over a term not to exceed 35 years. There is an element of external subsidy in the plan insofar as Yale University's private endowments are employed as a guarantee of the loans. New and interesting developments in the Yale scheme in 1974 will be examined in Chapter 7.

The economic theory of contingency loans will be examined in Chapter 6.

One policy suggested by the Yale experience is obviously to encourage such 'local' schemes. For instance a proportion of existing government subsidies could be used, after negotiation with individual universities, in the same way as the Yale endowment finance is used; that is to guarantee outstanding loans. In this way a given dollar of subsidy can be ^a means of shifting more of the costs upon the student while making it possible to maintain enrollments and enabling students to bear those costs with the assistance of an income contingent loan plan. In Canada the nearest we have come to the Yale scheme is the arrangement now operating at York University in co-operation with the Toronto Dominion Bank. Here is a clear example of a highly selected cohort where income prospects are high. The students are in the M.B.A. program at York University. The M.B.A. degree has one of the highest rates of return in Canada.^{4/} Our report contains (in Chapter 7) a more detailed account of the York system and arguments why the Ontario government should seriously consider further encouragement of it and others that may appear like it.

Student cohorts can select themselves not only according to university but also according to profession adopted. Indeed in some cases the professional cohort

^{4/} David A Dodge and David A.A. Stager, "Economic Returns to Graduate Study in Science, Engineering and Business." Canadian Jnl Economics. (1972) 182-98

can implement the plans that an entire university could not. A medical school for example could meet the special needs of its students better than the whole university. This is because, first, the student needs are for larger than average loans; second, the scheme is more likely to be successful on account of the fairly homogenous and high ability group that is serviced. The Duke University Plan, examined in Chapter 7 , is a good example of this kind of development.

The Repayment Period

An outstanding feature of the Yale plan and also that of Duke University, when compared with the American and Canadian federal loan plans, is the much longer repayment period, namely 30 years instead of the federal ten year loan. This raises the subject of the optimal period for repayment, a subject that is now under special study by Professor Andre Danriere of Boston College. Most economists working in this area would probably agree that a ten year repayment period is too short for many students. Danriere argues that it is possible to lengthen the repayment period in such a way as to be more convenient to the student, and indeed to reduce incentives to default, while at the same time not calling for any increased external subsidy. Danriere argues, however, that many of the original arguments made by economists, starting with the famous

Zacharias Plan (the Educational Opportunity Bank), were based on false assumptions about consumption functions. In consequence their proposals for very lengthy repayment periods up to forty years were quite unrealistic. Something between the present ten years and the forty year period originally favoured is therefore indicated on this analysis. Our guess at the moment is that a twenty year repayment period would meet with a majority approval among economists (and in private conversation Andre Daniere is also agreeable to this kind of figure). A fuller outline of the Daniere reasoning from his latest (1974) paper is produced in Chapter 6.^{5/}

Repayment Rates

Another useful modification to existing systems that would meet optimality and efficiency requirements is the application of the principle of graduated repayments to replace the present equal installment method. The Harvard University Plan is significant in this feature alone. Its method of increasing the repayment ratio as income increases is one avenue by which contingency elements can be spliced on to existing federal loan plans. For this reason, we shall later give a fuller account of the Harvard plan.

5. The account of Daniere's previous work that was described fairly fully in the Ontario Commission's Report of 1971 is, incidentally, not now representative of the main trend of his thinking.

Improving the Liquidity Problem

An important constraint facing individual universities that wish to develop their own loan schemes is the restricted amount of private university funds such as endowments that are used to finance them. There is a great lag from the time of lending to the time at which the flow of repayments becomes sufficient to service, that is to pay current interest on, the debt of the lender. When the university's private funds are used up, it is forced to enter the capital market to seek a willing lender who will put up funds so that the university can finance a new student intake. The capital market normally requires a substantial premium return on a long and uncertain investment and to a considerable extent a government guarantee can meet this requirement. To meet this liquidity problem of individual education establishments, the Student Loan Marketing Association ('Sallie Mae') was set up in America in 1972. The chief purpose was to extend the marketability of student loan bonds by giving them wider access in the capital market. Sallie Mae is a private corporation sponsored by the Federal Government with the purpose of providing liquidity for insured student loans made by eligible lenders. By the Fall of 1974, it was expected that it would raise between five hundred million dollars and one billion dollars of capital, primarily through debt issues, to finance student loans. Over time, it is generally expected

that Sallie Mae will become a multi-billion dollar corporation performing a function in the field of student loans comparable to the critical role the Federal National Mortgage Association serves in the field of housing. In the short run the Association has been confining itself to warehousing - that is, the making of loans to eligible lenders secured by student loan. It advanced from this position in the summer of 1974 by issuing purchase commitments to buy loans at a ~~future~~-date and creating a secondary market by buying and selling insured student loans directly. An appendix to our report contains further details on this interesting American development, a development that Canadian authorities should watch with interest.

Equity

Questions of student financing of post-secondary education invariably raise issues of equity and fairness. In Chapter 3 emphasis will be laid upon two kinds of equity. The first is that of equity between the users of post-secondary institutions; the second is the equity between two groups: the non-users (taxpayers), and users. In most analyses the second kind of equity is not very much discussed. We hope to counter this neglect. We do this by facing squarely the question: What does the poorest of taxpayers, who himself has no hope of qualifying for post-secondary

education, obtain from his tax dollar spent on those who do so qualify? This leads us into the question of the public benefits of education, the 'prices' of these benefits as educational costs continue to rise, and the degree to which they are pro-poor or pro-rich. Just after we had written Chapter 3, the Nova Scotia Royal Commission on Education, Public Services and Provincial-Municipal Relations published a Report (Oct. 1974) in which the equity questions were posed in exactly the same way. We include an account of the Nova Scotia Report in Appendix 2.

The first and more familiar kind of equity, that of equity between student users, we consider to have very great relevance to the question of introducing a contingency element in Canadian Loan schemes. In Chapter 5, we draw attention to the pronounced inequality of subsidy help to different kinds of students in the Canadian post-secondary system. For instance it will be pointed out that those who train for the professions receive educational subsidies well above average. This is not only because their duration in the educational system is longer, and sometimes the yearly expense of their education is above average, but also if they participate in the Canadian Student Loan Plan they enjoy a greater amount of forgiveness of interest payments during their longer period at college. It would seem reasonable, if one wanted to correct some of the inequality mentioned, to attempt an income contingency scheme mixing

the most heavily subsidized students with others so that the most high earnings exectors (the professionals), repaid loans at such marginal premium rates as to ensure some of the low earning exectors at the other end. It is true that we have already observed that high earning exectors will normally seek to avoid contingency schemes that include a heterogenous group of students. It is, however, worthwhile exploring the possibilities of minimum compulsion of the professional students such that their right to join the Federal Loan Plan, and enjoy its benefits, is made conditional upon their acceptance of the new contingency elements and the revised rates of repayment. If, for instance, it was decided that all post-secondary students were to enjoy an identical absolute amount of subsidy, the principle that was recommended in 1972 by the Ontario Commission on Postsecondary Education, professionals such as medical students would find themselves having to face much bigger education bills for the last two or three years of their training. It seems likely that they would simultaneously welcome the new type of contingency loan, especially if the borrowing amounts are increased, the length of repayment expanded, and the repayment rate graduated with income.

Practical Proposals

It is no doubt helpful to avoid proposals for contingency schemes which, as in the past, have involved

radical new systems. We believe that there are many possibilities of piecemeal modifications of the existing system that would not involve such radical or "revolutionary" change at least in the near future. We consider that a very useful division of labour is possible between Federal and Provincial governments. Federal Government can continue to offer Federal guarantees and establish guarantee agencies which are equipped to bear the risk of default. The new elements of "income contingency" can be born by new state agencies or in some cases the colleges themselves. Such a division of labour could be achieved through a "two paper" contract. The primary student contract would be with the Federal agency which concerns itself simply with the fixed schedule of payments as at present, (but with extended repayment duration if possible). A second contract could be negotiated with the State Government promising the borrower either a deferral of repayment obligation, or some forgiveness, in the event that payments exceeded a stipulated percentage of earnings. We have already indicated one way in which such 'low-earnings' protection can be fully covered; that is through an internal subsidy or mutualization scheme between a wide range of students. The anticipated cost of the low earnings protection can also, if desired, be partially covered by some reorganization of the existing external subsidy. Such a division of labour in fact is implicit in the Harvard University

plan, and for this reason we shall spend a little more time in outlining it in our Report. We do not wish to press unduly any one plan however. There are, as we shall show, many intermediate models that can be adopted. The main point at this stage is to provide a broad strategy for the Ontario Government to meet a worsening educational finance crisis. Properly selected, handled, and presented, a reformed and developed loan scheme has a political as well as an economic rationale. It can mediate between taxpayer and student; and it can reduce those frustrations of administration and academics that stem from growing 'blockages' in the financial conduits to their institutions. It is better to cope in advance with such irritations with pre-arranged plans than to resort to last minute expedients.

The best strategy is that which is rooted on first principles. Accordingly, we return, in the next chapter, to the original economic rationale for government intervention in the educational loan market. We shall argue that the accumulated evidence is now sufficient to show that prevailing loan schemes have neglected important elements in the basic theory of government's comparative advantage.

EFFICIENCY IN EDUCATIONAL FINANCE:
THE GOVERNMENT'S COMPARATIVE ADVANTAGE

In economics, the basic case for government subsidies to higher education traditionally rests upon a mixture of the two principles of equity and efficiency. Much current discussion indeed centres on the search for the optimal trade-off between them.¹ This chapter will examine the subject of efficiency. Principles of equity will be analysed in the next chapter.

Efficiency in the finance of higher education relates to the original purpose of intervention. In this report one major purpose is assumed to be the removal of barriers to access. The second major purpose is the optimum production of public (external) benefits from higher education. This chapter will be predominantly occupied with the question of access. External (public) benefits will be examined, along with equity, in the next chapter.

The most widely quoted examples of barriers to access are financial ones. Higher education would of course occur without intervention but at significant positive prices. But millions of other goods and services are also sold at significant positive prices. Should we speak of financial barriers here too?

1. See for instance the special symposium published by J.P.E. Vol. 80, No 3, Part II, June 1972 : "Investment in Education".

2. W. Lee Hansen, J.P.E. Vol. 80, 1972, p. 268.

Obviously the case for intervention must be linked not merely to the existence of prices, but to an argument that in higher education they are so 'artificial' or arbitrary as to constitute what can truly be called unusual financial barriers. Governmental removal of these is therefore urged. This policy is sometimes regarded as an efficiency operation, and sometimes as an inter-student equity move. Where special subsidies are thought to be required for inter-student equity, the advocates argue a need for a trade-off between equity and efficiency, implying that the two objectives are competitive rather than complementary. Since this area of debate appears confused, we shall make a further and deeper analysis of 'financial barriers' as a necessary preliminary to later arguments.

There seems a consensus among economists (see for instance Hansen and Weisbrod,³ Becker and Chiswick⁴ that the main reason for the specially 'artificial' barriers and the consequent lack of inter-student inequity, or inequality of opportunity, is the prevalence of 'excessive' interest charges facing qualified but low income students. It is not that education faces prices but that these prices are too 'high'. The unusually high price of finance is,

3. W. Lee Hansen and Burton A. Weisbrod, Benefits, Costs and Finance of Public Higher Education, Chicago: Markham, 1969.

4. Gary S. Becker and Barry R. Chiswick, "Education and the Distribution of Earnings". American Economic Review May 1966.

in turn, often construed as a capital market imperfection. It is fair to say, however, that no rigorous and empirical demonstration of this has yet been made. A crucial issue is the distinction between the student borrower's rate and the lender's realized rate.⁵ When we deduct transaction costs, the lender's realized rate may be no different from that realized on physical capital. With education loans transaction costs, which include costs of information, screening, collection, defaulting, etc., are likely to be appreciable. If they are high enough, the allocation of capital could be efficient; that is no 'artificial financial barrier' need exist. The precise extent of transaction costs is an empirical question and we must re-emphasize that it has so far not been answered adequately; but clearly it has much to do with risk and default rates - which will be focussed upon later in our Report. Meanwhile absence of evidence of abundant use of private loans for education does not necessarily mean that a capital market is imperfect or does not potentially exist. (Figure 1.)

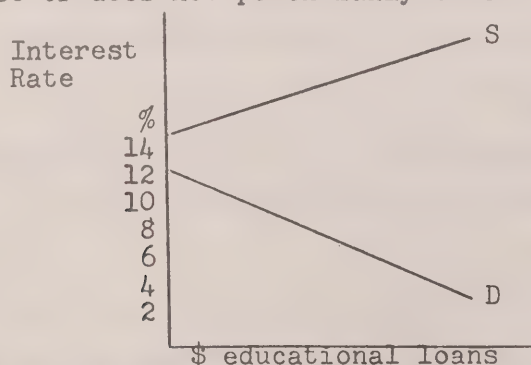


FIGURE 1.

5. George J. Stigler "Imperfections in the Capital Market" Journal of Political Economy (1967) pp. 287-292.

In Figure 1 the supply curve for loans is so high that it fails to intersect with any point on the demand curve. This is not an imperfect, but an inoperative market. The question of the 'true' height of the supply curve is a central issue in this Report.

The direct way of stating the meaning of an imperfect market is of course to begin with an examination of common definitions of a perfect one. Confidence in the adequacy of markets exists where certain well known assumptions are satisfied. These include the absence of monopoly, no transaction costs, and the existence of abundant knowledge. When some elementary transaction costs are introduced, costs such as invoicing, communication, transport etc., we reach intermediate cases where we are still reasonably confident that markets can handle them as practically as any alternative. With other transaction costs however we have less confidence that the market can handle them as well. This is especially so when there is considerable risk and imperfect or inadequate information. This is not to say that governments necessarily have lower information or risk-facing facilities, for in this area we must be especially cautious.

The market for human capital is one where we are confronted by both risk and information complexities. Many writers emphasize that human capital is not available on terms comparable to physical capital because whereas

with conventional loans, like a house mortgage, a physical asset can be repossessed in case of default. Without further discussion this argument could be semantic. Repossession cannot occur in the case of an educational loan because the law does not allow investors to hold equity stakes in other human beings. Such an argument does not constitute a direct proof that the capital market is 'imperfect'. Markets work only with a given legal framework. Here the framework is 'restricted'. This is so because the property rights of the worker (to pledge future income against a loan) are curtailed. It may be that we should avoid equating this constraint with 'market imperfection'; given the legal framework 'very high' rates of interest may be compatible with a capital market that is adjusting to the circumstances with perfect efficiency.⁶

It is interesting nevertheless to probe deeper and ask why it was first necessary so to constrain the law. A market blockage may have been established deliberately; and this because of previous inadequacies in markets. It is unlikely that there was a complete or perfect set of risk markets. In such circumstances there are no prices

6. Stigler, op. cit., argues that the legal limitation on the worker's bargaining rights should be called an imperfection-of-the-labour-market. The term imperfection however cannot directly be switched to the labour market. What is certainly happening is a market 'blockage', constraint or restriction. A market that the government does not allow to exist can be neither imperfect nor perfect. Similarly, where only a part of a market is forbidden the resultant 'inadequacies' are not necessarily inherent in the 'market system' itself.

to guide decision makers in a context of uncertainty. If there was a complete set of risk markets these would include a market for contingency lending so that individuals even from the poorest of families could borrow to finance their higher education. In such a market borrowers would pledge a percentage of future income differentials, and lenders would charge average borrowers a rate that, on average, paid for or covered the risk that others will not succeed in earning a significant differential. The latter individuals would thus be insured against complete destitution or worsening of incomes. In the absence of a market in contingency loans, say because of severe information or policing costs, some individuals will be tempted to borrow on a non-contingent basis. This could in some cases have results that are socially repugnant. (Allowing others to have an equity stake in oneself on a non-contingent basis could lead to forms of slavery). To prevent such consequences, governments would be prompted to protect individuals with bankruptcy or usury laws; and they might deliberately establish the market blockages previously mentioned. Much of this reasoning however is still conjecture. What we need next is some hard evidence.

In practice some private markets for human capital do exist even within the legal constraints (or blockages). How efficient are these? The problem of coping with high variance is basically one of adequate

risk-pooling. There is no clear evidence that large finance houses and insurance companies do not already enjoy economies of large scale of such pooling of risk. Today multinational finance corporations frequently have pooling facilities that are bigger than those available to some governments especially provincial governments. Moreover, as Friedman points out, there is no clear reason why finance and insurance corporations cannot devise means to select from among the potential human capital investors and charge rates that differ according to individual prospects. In fact, as we shall show in Chapter 7 this is already happening. One method of implementing this policy would be to organize special 'company examinations' and to have candidates independently assessed. Individuals who are the better prospects would then be more likely to invest because their rates would be lower than others; in this way selected individuals will be less called upon to 'subsidize' the interest rates charged to poorer prospects - although some probability of failure will remain even among the screened prospects.

A perfect market requires free entry and that traders have access to optimal information about bids, offers and conditions. In the sense of freedom of entry the market for capital happens to be highly competitive (Stigler op. cit.). In the sense of the need for 'full' information among buyers and sellers there is much less

confidence. Information however is expensive. It is especially so to lenders in human capital markets, whether they be private individuals or government officials. In such circumstances efficiency demands not complete but optimum information. The latter is found at the point where marginal costs and expected marginal returns from search are equal. If it is not remunerative to acquire 'complete' knowledge a market possessing incomplete knowledge is not necessarily imperfect.

If a government has no better methods than have private agencies for reducing transaction costs, it will create a misallocation of capital, not eliminate one, if it intervenes to lower interest rates to one common level. But now we reach a crucial part of the analysis. It can be argued that governments are in a position to reduce transaction costs. This relates to ^{their} ~~its~~ access (a) to superior information, (b) to administrative economies. Governments have already invested large resources in establishing machinery for income tax assessment and collection. The marginal costs of using this machinery for educational loans collection should be relatively small. This advantage applies to non-contingent as well as to contingent loans. With contingent loans however there is an added advantage. Contingency systems depend upon the supply of accurate income statements long after the production of human capital has been completed. Governments

have this knowledge automatically and cheaply through income tax statements. Government sponsored loans therefore could carry reduced interest rates, not because of subsidies from non-users, but from 'genuine' cost reductions in lending.

This argument needs some qualification. First, full information about life-time earnings is not available from government income tax files.. Second, it is arguable that the screening of candidates for loans is better done by educational authorities. Universities for instance have better information concerning the progress of students and their worthiness to receive loans. What is strongly indicated however is the need for a division of labour; educational institutions can concentrate upon screening and government can accept responsibility for administration and collection. The reason that government authorities are at present so involved in the screening process is that loans are issued partly on the criterion of parental incomes. In a full contingency plan this would be irrelevant. Only the future income prospects of the student would count.

Much discussion suggests that the key advantage enjoyed by governments is their ability to mutualize risks. Because of the large variance in outcomes from human capital investments, it is argued, an individual will be reluctant to borrow in the form of a fixed money repayment loan. He

may however be more likely to borrow in the form of a government loan that is contingent upon income (i.e., a fixed percentage of future income over a given period) and where, if his lifetime income is low, repayments are small. Since governments will obtain more revenue from the more successful, they will be able to cover the costs of financing the less successful. Thus: "The Education Opportunity Bank mutualizes the risks of investment in education in the same way that fire insurance mutualizes the risks of investment in housing."⁷ We do not deny that governments do possess such an advantage. But it is not an absolute or key advantage. When the private sector makes loans, it also mutualizes risks. Incorporated into the rate charged by the lender is an allowance for default; and this allowance is, in an accounting sense, paid for by the successful investors. This is the equivalent to the 'extra' tax upon the successful in the Education Opportunity Bank scheme. One cannot assume therefore that private markets are inefficient because they cannot mutualize risk.

When asking what can governments do that the private sector cannot do better, the central focus should be upon the possibility of the previously mentioned administrative conveniences-but especially that of interest collection. One of the most demanding requirements of any educational loan system is an efficiently policed system of

7. Karl Shell et al, "The Educational Opportunity Bank", National Tax Journal, March 1968.

repayments and interest collection. It is this area more than any other that the private market is likely to confront the severest costs. With respect to a borrower's repayment and interest charges Friedman argues: "payment could easily be combined with payment of income tax and so involve a minimum of additional administrative expense".⁸ This is a crucial point; but it is the quality of this government collecting channel more than the quantity of conventional administrative expenses that is the governing factor. The argument has to do with incentives to default. It is realistic to assume that there is a significant margin of people who will have no compunction in evading repayment if they believe the chances of escape without cost are good. Because the borrower does not pledge physical collateral he is more tempted to skip. We predict that these chances will be better if the collecting agency is a bank rather than the income tax authorities. If the bank is guaranteed the loan repayment on default, it will have negligible incentive to pursue the debtor. If however the loan is registered in the income tax files, the only way to default is to become a vagrant and to forgo lifetime social security benefits. This is the fundamental ('deterrent') advantage that governments have over private markets: the costs imposed on defaulters are automatic and

8. This appears in Friedman's version of his argument in Capitalism and Freedom (1962), p. 105.

extremely large. This point has not been clearly brought out in the literature.⁹

The foregoing does not 'prove' private market imperfection. It shows only that government has 'monopoly' access to machinery unavailable to the private sector. Nevertheless the possibility of using this key advantage strongly argues for government intervention - provided that government makes full use of it. If instead, governments concentrate upon guaranteeing educational loans to private banks, it is probably that the costs of defaults could rise to such a point that the true costs of lending to students eventually exceeds those in the market. Moreover the new economic theory of bureaucracy¹⁰ predicts still worse. The theory initially postulates that bureau personnel are no more and no less self-interested than other individuals.

9. A partial exception is Robert W. Hartman, Credit for College, A Report for The Carnegie Commission on Higher Education (1971). He observes that in America "A large part of the cost of both the National Defence Student Loans and The Guaranteed Loan Program has been for collection. Frequent billings, in small sums, to a geographically mobile population over a 10 year period, are a collector's nightmare.... Only the I.R.S. could collect this type of loan (a general youth loan) with minimal marginal costs."

Hartman however fails to develop the argument, and indeed he later drops the idea for a rather weak reason: "At least from the point of view of the U.S. Treasury, the use of I.R.S. for collecting student loans is a radical proposal and second best solutions are in order," Hartman's book was written well before the alarm over student default rates that has built up over the last two years. Hartman's 'second best solutions' have apparently failed.

10. See William A. Niskanen, Bureaucracy and Representative Government, New York, 1971.

Whilst such interest can often be channelled in such a way as to benefit society, the incentives in bureaucracies are frequently to society's disadvantage. Self-interest here often finds simple expression in pressure by the bureau, not to attain social efficiency, but simply to expand its own budget. Suppose a government 'gets off on the wrong foot' with its student loan system and does not use the income tax agency for collections; and suppose indeed that the possibility is completely lost sight of. The larger number of student defaults that ensue will give the bureau an additional argument for expanding its own department. It will call for special personnel to investigate monitor, and research the growing default 'problem'. In addition to the costs of defaults there will be now the costs of an expanding civil service, at first on an ad hoc or temporary basis, but eventually on a permanent one.

Before ending this chapter we shall suggest hypotheses arising out of it that are empirically testable. We shall later apply some elementary evidence and to suggest methods for more sophisticated testing in future research. Our first hypothesis is that, for students as a class, private market rates of interest for education loans will be 'high'; and this because of large transaction costs. Default costs on such loans will be much higher than on loans with physical collateral such as house loans. To obtain suitable evidence we need to begin with observing

some non-educational loan rates. The default experience when banks are the collectors of educational loans will next provide some beginning picture of the true costs of private lending. When adjusted student loan default costs are added, say to the going rate on house mortgages, we shall have some rough idea of a 'shadow interest rate' in the private market and a test of how 'high' it really is.

A second hypothesis is that higher private market interest rates are potentially necessary for those groups where information and risk costs are higher. We shall attempt to identify these groups by testing for differences according to parent's income, student income, sex and loan size.

A third hypothesis is that, in their own interests, students will join private lending schemes where income expectation rates are high and where membership is fairly homogeneous in terms of risk rating (see the evidence of the Yale Plan pp. 126-138 below).

A fourth hypothesis is that where commercial banks are the collectors for government guaranteed student loans they will devote very few resources to pursuing defaulters (see chapter 8).

A fifth hypothesis (following from the fourth) is that government bureaus will press for a special intake of personnel into their department to be responsible for those areas of collection where banks have failed. (see chapter 8)

EQUITY IN HIGHER EDUCATION:
DOES IT COMPETE WITH EFFICIENCY?

Two Types of Equity

It is first necessary to make a distinction between two broad types of equity in the context of education finance. Equity (type I) will refer to equity within the college-ability group. Equity (type II) will relate to equity between the college-ability and non-college, typically lower ability groups (or between users and non-users of the education system). It will be argued in this chapter that equity type II may be more relevant; and that exactly proportionate representation of income classes may not be necessary. It is not usually recognized, when writers make equity judgements, that they are choosing from a wide variety of definitions. Our own position comes quite close to that of John Rawls.¹ The Rawlsian approach is based on the 'difference principle': that for any given public intervention or change, those who are lowest on the income scale are benefitted. "The intuitive idea is that the social order is not to establish and secure the more attractive prospects of those better off unless doing so is to the advantage of those less fortunate."² Since in our context the class that is 'less fortunate' overlaps considerably with the group that does not receive post-secondary education, the reason

1. John Rawls A Theory of Justice, (1971).

2. John Rawls, p. 75.

for our emphasis on Equity type II between users and non-users, will be apparent. A weaker version of the Rawlsian ethic will also be applied. This is the rule that any change or intervention can be allowed so long as those lowest on the income scale are not made any worse off. By income scale is meant a life-time income scale. The avoidance of injury to the poorest has its corollary that the taxes they pay (property tax, excise, sales tax, etc.) will be used in the most efficient manner and not to the disproportionate benefit of more fortunate classes.

Some perspective on low-income non-users in Canada and Ontario is required next. Education is of course subsidized from all levels of government. Taxes other than individual income tax, to which low income individuals contribute can be calculated from Table I to account for 70 per cent of Canadian Federal, Provincial and Local tax revenues in 1969 and for 68 per cent in Ontario. Individual income tax provided only 29.8 per cent (31.7% in Ontario); corporation income tax it is true provided another 14 per cent (10% in Ontario) but its incidence is shifted to some extent on to consumer prices to a degree that leads many authorities to believe it is roughly proportional across incomes. Revenues collected from General Sales Taxes, Excise Taxes and Property Tax alone exceeded those from individual income tax in Canada and in Ontario. In the appendix to this chapter we produce Tables II, III and IV showing the breakdown of taxes at the Federal, Provincial and Local levels respectively.

Federal expenditure on education goes entirely to the post-secondary sector and contributes substantially (50%) in this area.

TOTAL TAX PAYMENTS, BY REGIONS, 1969

TABLE I

Millions of Dollars						
Line	Item	Total-All Canada	Atlantic Region	Quebec	Ontario	Prairie Region
1	Individual Income Tax	7730.4	358.3	2155.9	3282.3	1122.9
2	Corporation Income Tax	2681.9	154.6	546.1	1056.2	482.0
3	General Sales Tax	3980.6	312.3	1132.3	1590.6	488.2
4	Selective Excise Taxes	2648.5	222.2	769.6	1005.3	417.7
5	Property Tax	2824.8	111.9	684.2	1240.3	473.4
6	Social Security Taxes	1862.8	197.3	502.4	690.1	289.7
7	Medical-Hospital Premiums & Other Poll Taxes	660.4	1.8	---	475.7	113.8
8	Customs Import Duties	818.3	54.0	236.5	323.2	121.1
9	Succession & Estate Taxes	241.6	6.5	68.5	118.6	12.8
10	Other Taxes	1260.7	76.6	307.4	571.9	554.3
11	Total Taxes	24706.5	1467.5	6402.3	10348.8	3727.5

Details may not add to totals, due to rounding.

Source: Irwin Gillespie, The Redistribution of Income in Canada (forthcoming.)

The way in which Federal expenditure was distributed in 1969 among families of different income levels is shown in Table II. The first row gives the percentage attributable to each income group. It shows that 5.5 % of families receiving under \$2,000 obtained some Federal expenditure for higher education whilst the proportion was over twice as large (at 11.9 %) in the over \$15,000 income family group. Before we can conclude that such figures reveal severe inequity we require important qualifications. We need first to weight each income group by its numerical significance in the total population. This significance is given in the second row of Table II. Row 3 is obtained after weighting appropriately; that is after dividing line 1 by line 2. It will be seen that even after such weighting the over \$15,000 income group has an index which is still just over double that of the under \$2,000 group. On the face of it, if we look merely at the static figures, those groups experiencing an index of less than unity in line 3 are suffering a disproportionate (low) share of benefits. These cases are clustered in the low income groups, with the lowest income receiving the lowest index under unity.

Our second qualification stresses the need to proceed from static, or cross sectional, to dynamic, or longitudinal figures. Throughout our study we stress lifetime incomes and expenditures. The column in Table II relate to families that happen to be in their respective income group at one point in time. A family that is now in column 1 could possibly progress through all columns from the poorest to the richest during its whole lifetime; or to complete the circle by returning to column 1 at the end of its

TABLE II

THE DISTRIBUTION OF FEDERAL EXPENDITURE ON POSTSECONDARY EDUCATION,

CANADA, 1969.

		Family Money Income Class										
		under	\$2,000	\$3,000	\$4,000	\$5,000	\$6,000	\$7,000	\$10,000	\$15,000	Total	
		\$2,000	2,999	3,999	4,999	5,999	6,999	9,999	14,999	& over		
1. Percentage Distribution of Federal Expenditure on Education		5.5	4.6	6.3	8.9	10.7	10.4	24.8	16.7	11.9	100	
2. Income group as a Percentage of all family units.		9.1	7.5	7.1	6.9	8.0	8.9	24.5	19.5	8.6	100	
3. Line 1 divided by Line 2.		0.60	0.61	0.89	1.29	1.34	1.17	1.01	0.84	1.38		

Source :

Rows 1 and 2 from : Irwin Gillespie : The Redistribution of Income in Canada, 1969,

(forthcoming)

life. (It so happens that column 1 includes many old age pensioners.) Nevertheless there are wellknown inequalities of income even on a life-time basis. Many of the lower life-time income families will probably start somewhere to the left of Table II and progress rightwards up to, or slightly beyond, halfway; and then perhaps return leftwards to the lower income end. The figures show that such families will typically experience a lower life-time index of educational benefits than families that start their life-time earnings higher up the scale; or who start as much to the left but reach further to the right up the income scale during their lifetimes.

A third qualification is that the figures of benefits in line 1 are obtained simply from family units reporting (on FAMEX) expenditures or tuition fees for postsecondary education. It does not follow that each of two families reporting fee paying receive the same degree of public subsidy. Studies have shown that persons from low-income backgrounds typically receive a lower total subsidy than others. This is usually because of the different types of institutions selected from within the college 'hierarchy.'¹

A fourth qualification is that the basis of equity judgement has been the income of the student's parents. We shall emphasize later in this chapter the more important criterion of the lifetime income of the student.

Our fifth qualification is the most important of all.

1. E.L. Hansen and B.A. Weisbrod: Benefits, Costs and Finances of Public Higher Education, 1969.

Even if all the figures in Table II^{and} after all the above qualifications had been taken into account, showed equality of benefits between income groups, they would say nothing about equality between these users as a group and the non-users of postsecondary education. This is a significant distinction on numerical grounds alone, since half the population is in the non-user category. But even if there was only one non-user the Rawlsian equity question would remain just as relevant as before.

The above figures have clearly been related largely to the question of inter-student equity (Equity type 1). Suppose that the main obstacle to this equity is the existence of the financial barriers analysed in the previous chapter. The establishment of a loan system, made possible by the full use of the Government's real comparative advantages in collection and information, would presumably solve this equity problem. But if the loan system is a success (because the comparative advantages on lending do prove to be large), then the development of the loan system is also an efficiency move. If so, the pursuit of this type of equity is complementary with the pursuit of efficiency; there is no question of a trade-off between the two. In this and the next chapter we show that if the 'push' for equity type 1 becomes much stronger than a desire simply to remove financial barriers, what may in effect be 'traded-off' will be equity type II. (between users and non-users.)

Government intervention to achieve the administrative economies, discussed in the previous chapter, is most unlikely to go so far as to produce full equality between students in the terms for lending. For instance a student from a rich family might still be able to obtain bank loans on better terms than an equally able student from a poor family. This will be a consequence of remaining differences in transaction costs and redistribution within rich families to the benefit of their college-going members. Different transaction costs will persist because of remaining differences in information between borrowers and lenders concerning expected earnings and degrees of risk involved in training investments. A wide variety of discount rates will be a reflection of these information differences. Individuals with transferable wealth can substantially reduce the information differences between borrower and lender, and convert an unsecured loan to a "riskless" one by pledging collateral. The situation is similar to the rich family's financing education internally. Since the borrower and the lender here comprise, as it were, the same unit, the information difference disappears. But although the person in a family without assignable wealth thus appears to face higher real costs of borrowing, the cost of capital to the son of the rich person is still positive; it is presumably what the family could lend the capital for and not some fictitious transfer rate.

Where the family is not considered as a 'unit' but as a collection of individuals with strongly interdependent utility functions, analysis can proceed in terms of internal familial gifts. This occurs when the parent explicitly or implicitly acts as a guarantor for an educational loan for his son or daughter. This assumption by the parent of the cost of risk is equivalent to a financial grant to the offspring. The parent's guarantorship has opportunity costs because his collateral is finite. If it is used in this way it cannot be pledged for another loan - say for physical capital. If others regard this act of giving as an inequity, it would seem to be no more so than giving the offspring superior housing, food, clothing, and recreation and so on. In other words the basic inequality is that of income; and appropriate 'corrections' of that are usually a matter of direct taxation of income.

The Equity/Efficiency Trade-Off Argument

After optimal income redistribution has occurred, the persistence of remaining (efficiency) differences in prices for educational finance - even in the most competitive of lending systems - means that any further moves to reduce them will be allocatively inefficient. Such reductions are often urged nevertheless on grounds of further equity. It is at this stage of the discussion indeed where the con-

ventional debate about a 'proper' trade-off between efficiency and equity begins. Hartman summarizes it as follows: "Are we willing to risk a little less assurance of public benefits in exchange for a little more equalization of opportunity?"³ Whether and to what extent public benefits exist will be examined in the next chapter. We assume here for the sake of argument that they do exist. We question however the implications of the 'trade-off' when the assumed interest rate reductions or default penalty forgiveness necessary to achieve more equity within the user group call for extra government subsidies. These are financed from general revenue contributed to by taxes on low income individuals. Such persons, to repeat, typically do not use the higher education system. If these same non-users acquiesce initially to paying taxes for education one could assume that they are predominantly interested in the public benefits (externalities) from education that accrue especially to their families. If, in the announced interests of equity between student classes, these poor non-users face a bigger tax contribution than otherwise, and if total external benefits remain the same, then the 'price per externality' confronting each low-income taxpayer is arbitrarily raised. The same is true indirectly when defaults are allowed to rise. On our assumption that equity II has the higher rank (on 'Rawlsian' grounds), the subsidization of interest rates, or the toleration of increasing default rates, cannot be the outcome of a trade-off

3. Robert Hartman, "A Comment on the Pechman-Hansen-Weisbrod Controversy", Journal of Human Resources, 5 (1970), pp. 519-23.

between efficiency and equity. Efficiency and ('Rawlsian') equity are both injured.⁴

Equity type I suffers considerable relegation when 'equity' is measured on the standards of life-time income streams. On this basis students who qualify for higher education are not poor; or at least they are only transitorily poor during their years of education. From the latest information we can report that in the 20 year term after receiving their degrees post-graduates earn from \$280,000 for theology graduates with an MA, to \$830,000 for MD's with an MSc in surgery. Even those who obtain BA general degrees earn on average \$13,800 over 20 years after graduation. Those with BSc Chemistry degrees earn on average \$15,700 over the same period.⁵

It might appear that where the public benefits are strongly pro-poor this fact could offset those additional taxes on low income non-users that are used to subsidize interest rates for the high cost of borrowers. The main reply to this is not contained in the statement that we are lacking evidence on the exact incidence of benefits (which is true), but that even if they were pro-poor this still does not imply that the poor should not be charged the lowest possible 'tax price' for them.

A sociological argument may remain that a 'proper balance' of student class affects the educational outcome and also the magnitude of external benefits. The main difficulty however is that so far there is insufficient evidence. The advocates of this argument have no reliable formula for deciding the optimum (target) numbers of people with low-income

4. This is not an argument against subsidizing education; only an argument against this form of subsidization.

5. Unpublished figures from Table 32A of the Highly Qualified Manpower Survey for 1973 and made available to us in May 1975. All figures are in constant 1973 dollars.

origins that 'ought to be' in say the educated professions of law, medicine, or engineering. Meanwhile since there are pressing alternative claims for public spending (such as urban transit and anti-pollution projects) there are severe constraints on spending to achieve 'proper balance' in higher education.

An alternative argument, following the welfare tradition in economics, might be to postulate that 'social mobility' is an argument in every individual's utility function. Each individual might simply want to live in a society where it was possible for instance for many factory workers' sons eventually to reach higher social and income ranks after 'educating themselves to it'. This would be a kind of 'lottery' approach with each factory worker being willing to place his tax dollar 'in the hat' and take a chance on whether his young son might turn out to be one of the gifted ones. Social mobility could then be regarded as a pure public good. All individuals would benefit ex ante in the sense of each having a potential 'winner's ticket'.

One reply is that the odds of winning are usually biassed against poor families. More important, there is no substantial evidence to show that the most efficient way of achieving the desired social mobility is not by way of a government sponsored loan scheme on an income contingency basis. Under the 'lottery' approach no family can escape payment. There will therefore be many net-losers, ex post, among the lowest income

groups. Under the income contingency loan scheme, in contrast, only the student class pays; or rather those students whose income rises because of successful higher education. The losses of the unsuccessful are paid, not by the total population, including the poor, but by one rich section of it - those participants in the contingency loan scheme whose education substantially pays off. We claim no originality of course in presenting this contingency principle in educational lending. Indeed it goes back to Friedman's pioneering work in the 1940's. In more detail, it reappeared in the Zacharias report of 1967 called "The Educational Opportunity Bank". Other writers, in Canada and elsewhere, have since worked on various numerical illustrations and permutations of the same principle. What is now most pertinent is the question why, after so much agreement among the academics, no government-sponsored contingency scheme has yet been launched - either in America or Canada. One possible answer is that legislators still do not fully understand it. For this reason we shall devote chapter 6 to further elaboration. Another partial answer has already been given in the previous chapter: there has been a failure to develop one part of the original Friedman theory: the government's presumed comparative advantage in the ability to collect repayments and interest from the successful investors in human capital. This failure, we believe, has led to a wrong implementation of policy.

Income Egalitarianism

We have already indicated that arguments for subsidies to the poorer students in order exactly to match the terms on which rich students can obtain loans are on our analysis ultimately based on a quest for equality, not of education per se, but of income. This raises the question whether the most direct 'attack' on wealth inequality is by way of 'undisguised' income redistribution, the policy that is associated with the 'Chicago school' tradition of Henry Simons.⁵ This tradition stresses that such pursuit of equality (i.e. redistribution) has nothing to do with improving the efficiencies of particular markets. The improvement of the workings of the capital market is one thing; the 'artificial' subsidization of the interest rates once the market is working is quite another. To apply the term 'equality of opportunity' to such a policy strains it beyond recognition. Ultimately it would imply the equality of opportunity of the poor family to enjoy all the fruits of the superior income of a rich one; and all the internal family subsidies that occur therein as well. It would mean the equality of the opportunity to buy non-formal educational facilities such as books and travel, superior clothes, better houses, better automobiles and better everything that money is spent on. The simple term 'equality' meaning equality of income is the traditional and effective one for such goals.

5. Henry Simons, Economic Policy for a Free Society, 1948.

There seems no good reason to replace it.

Specific Egalitarianism

The Simons' approach of course has been challenged by those who make a case for 'in-kind' rather than cash transfers. James Tobin for instance, in explicit opposition to Simons, has recently made a case for what he calls 'specific egalitarianism'. This is a policy whereby certain selected scarce commodities are distributed less unequally than the ability to pay for them. The social conscience, argues Tobin, "is more offended by severe inequality in nutrition and basic shelter, or in access to medical care or to legal assistance, than by inequality in automobiles, books, clothes, furniture, boats. Can we somehow remove the necessities of life and health from the prizes that serve as incentives for economic activity, and instead let people strive and compete for non-essential luxuries and amenities?"⁶

Whether subsidies to university students can be justified on the Tobin approach evidently reduces to the question whether higher education can qualify as one of the 'necessities of life'. Tobin's own treatment of education in fact is confined to providing compulsory minimum quantities of lower education; and this presumably as one of the necessities of life. Since higher education is received

6. James Tobin, "On Limiting the Domain of Inequality", Journal of Law and Economics, Vol. XIII (2) October, 1970.

by only a proportion of the community, it does not seem to qualify for the policy of Tobin's 'specific egalitarianism'.⁷ Equality of opportunity in lower schooling apparently implies a policy of counteracting environmental handicaps confronting some children. Even this argument needs qualifying today when studies suggest that it is family influence, both genetic and cultural, that play a dominant role in academic performance. Nevertheless the idea seems to be to try to get the deprived children up on a level at the 'starting line of the race' by means of extra school resources. Once the 'race' is allowed to be run, however equal the starting point, there is bound to be inequality of result. If we insist that there shall be equality of result at all stages there will be no 'race'. It follows that ability will then be penalized (assuming heterogeneous endowment and character). A policy of granting subsidies up through all stages of higher education could have this consequence. It may of course be a consequence that some people desire but it does not seem to be the intention of any of the writers mentioned so far.

7. Tobin in fact argues, in the context of health provisions for the poor on which there is social concern, that where medical resources are in elastic supply..."the medical deprivations of the poor can be laid to rich consumers of automobiles, boats, and higher education as fairly as to rich over-consumers of the services of physicians and hospitals" (ibid., p. 267, *our italics*).

Fiscal Equity and the Current Controversy

The next stage of our argument contains much more than definitional or semantic issues. Consider the sources of tax revenue that supplies the subsidy required to reduce educational loan rates or to cover unnecessary costs of defaults. To identify the revenue source we need to find the marginal tax changes required to meet this new government program.⁸ The new tax modifications could be progressive, regressive or proportionate. But whatever the precise result, it is most probable that poor families that do not participate in higher education will be invited to contribute something in tax for the benefit of those who do. When this happens there will be, at least on the Simon's approach, serious contradictions in this alleged policy of "equality". A scheme whereby poor family 'c' is obliged to pay a subsidy to enable family 'b' to become educated and therefore to become better off so that it is nearer to the standard of living of a rich family 'a', is certainly not consistent with the Rawlsian conception of equality. Some are made "more equal", but others are made "less equal".⁹ Consider too the question of intergenerational redistribution. To oblige

8. See E.G. West's reply to M. Blaug in Choice in Education, I.E.A., 1967, and Economics, Education and the Politician, Hobart-Paper 48 Institute of Economic Affairs, London, 1968.

9. What happens is simply a change in the position of the 'bulge' in the Lorenz curve, the area underneath the curve remaining the same.

poor taxpayers in the high age groups to subsidize eventually more wealthy individuals in the lower age group, amounts clearly to a regressive change. The same is true even when average taxpayers are invited to transfer resources to future generations. On the explicit assumption that we expect positive future growth with the passage of time, we must expect future generations to enjoy on average larger lifetime income streams than do present generations. Providing for future generations whether by human or non-human capital bequests thus becomes a regressive policy.

Table III reproduces Table IV-12 from Hansen and Weisbrod's work in 1969 and contains some of their statistical findings on the California system.¹⁰

10. W. Lee Hansen and Burton A. Weisbrod, *op cit.*

TABLE III

AVERAGE FAMILY INCOMES, AVERAGE HIGHER
EDUCATION SUBSIDIES RECEIVED, AND AVER-
AGE STATE AND LOCAL TAXES PAID BY FAMI-
LIES, BY TYPE OF INSTITUTION CHILDREN
ATTEND, CALIFORNIA, 1964

	All Fami- lies	Fam. With- out Children in Calif. Pub. Higher Education	Fam. with Children in Calif. Public Higher Education			
			Total	JC	SC	UC
1. Aver. Family Income	\$8,000	\$7,900	\$9,560	\$8,800	\$10,000	\$12,000
2. Aver. Higher Education Subsidy per Year	--	0	880	720	1,400	1,700
3. Aver. Total State and Local Taxes Paid	620	650	740	680	770	910
4. Net Transfer (Line 2-- Line 3)	--	-650	+140	+40	+630	+790

From the point of view of families earning \$8,000 or less and without children, the results are clearly regressive. Families without children receive no subsidy but pay an average of \$650 in state and local taxes. Families with college student members receive an average transfer of \$140. Hansen and Weisbrod are primarily interested in the inequality within the group that consume higher education, that is in the last 4 columns. They concentrate on the substantial difference in net benefits or transfers. They vary from \$140

to \$790 (line 4). These differences, Hansen and Weisbrod point out, can be largely explained by differential expenditures within a hierarchy of institutions together with inequality of income class representation within them. Thus the typical "University of California student" receives the biggest benefits and pays taxes well below their value, whereas the typical "junior college student" receives the poorest benefit. The implication of these points is that government can combat the inequality shown in the last four items of line 4 by altering the eligibility rates and subsidy levels for each college system.

Such a policy is evidently an expression of specific egalitarianism outlined earlier. This seems clear especially from the explicit argument by Hansen and Weisbrod (op. cit. p. 6) that government could "far more easily alter the eligibility rates and subsidy levels for each college system than it could change the distribution of income in the State; altering the income distribution is an exceedingly blunt instrument...if it is an instrument at all...for affecting access to higher education." Clearly income distribution (Simon's type of equity) is here not the end but the means to another end: equality of access to higher education. Using Tobin's phraseology this would mean that the social conscience is more offended by inequality in higher education than by inequality in clothes, furniture and automobiles. Higher education is one of those scarce

commodities that should be distributed less unequally than the ability to pay for them.

The difficulty with this argument from our 'Rawlsian' criterion of equity is that subsidies to higher education normally aggravate rather than reduce income or wealth inequality. Even if eligibility rates and subsidy levels were so adjusted to achieve equality between the users of education it would do nothing to remove the inequality between users and non-users, (in Table I between the first item of line 4 and the rest of the line). Specific egalitarianism usually relates to the provision of a minimum for all. Clearly many people in the lowest income group never become users of the system because of low endowment of monetary wealth or of non-monetary 'natural talent'. It is true that Hansen and Weisbrod do try to some extent to cover this point by urging the spread of educational opportunity to this group. But (a) it is not likely that higher education will ever be completely non selective, (b) people may prefer the option of cash to education.¹¹ No country in the western world has yet attained one hundred per cent participation in higher education. Meanwhile reference to an equity that is not overall, but within the privileged group who are best able to profit from education, can be erroneous. There may indeed be a question of equity within this student group, but this surely merits less weight than overall ('Rawlsian') equity.

11. See Harry Johnson, J.P.E. Symposium, 1972, p. 289. If people prefer the cash option however the most desired way to satisfy it is to refrain from taxing them in the first place for a service they don't use. Again the alternative income-contingent loan scheme scores points.

Consider next the other argument that is used to support a policy of specific egalitarianism. This is the recognition that there are costs involved in conventional redistribution. First there are excess burdens that result from taxes that are not lump sum. Second there are the costs of screening proper beneficiaries. In particular there are financial costs of identifying 'the poor'. This is partly because some people are inhibited from giving information about their individual welfare by the stigma costs associated with participation in programs only for the poor. These are valid points in many kinds of typical poverty programs. Nevertheless such costs relate mainly to the welfare provision of basic necessities for the poor. In higher education, by contrast, the group to be identified is not poor and it is easy to identify. It consists of all those people who can make themselves academically eligible. Membership of this (intelligent) section of society clearly cannot be used as an indicator of 'poverty'. Most students, to repeat, are transitorily poor while in fact members of upper income groups. It is permanent income rather than transitory income that is the important indicator of poverty. This is a key point in the basic analytic framework of our study. The application of the permanent income measure will normally be enough to disqualify members of the group from the 'poverty class'. Logically too, we should compare the permanent income of those families and individuals who do not participate in higher education and who contribute taxes

to it. Indeed, it is only when we compare the life-time incomes of the taxpaying working class members of the non participating group with those of the participating group, that the really important regressive element in the higher education becomes revealed.

The 'Family' or the 'Individual Adult':

Selecting the Appropriate Basis

A key aspect of the debate on 'fiscal equity' is the assumption that the family is the proper base for utility maximization. Among current American investigators Pechman, Hansen, and Weisbrod¹² seem to accept this for the purposes of their analysis of redistribution effects of education. The figures in Table III above in fact concern subsidies to education per family. In contrast to such an assumption, we believe that in the case of higher education there are strong grounds for treating the 'adult individual' as the basic unit. When we accept this unit the outcome alters considerably. For instance, supposing we were to be predominantly forward-looking and were to identify each 18 year old person as an adult with full responsibility (as many countries do that grant voting rights to this age group). In the context of a policy of (pure) equality, we

12. Op. cit. There has been similar work in Canada: "The Income-Redistributive Effects of Public Aid to Higher Education in Canada" in Canadian Problems and Policies, McGraw Hill, 1970.

would make most reference to his future expected life stream of income. Much less relevant would be his parents' current income or to the remaining part of the life-time flow of parental income. In the case of those 18 year olds who are candidates for higher education, we are considering a group of individuals who have above average ability. Their natural endowment alone leads to a fairly high expectation of future income.¹³

Even if we insist on maintaining "the family" as the basic unit, we should remember that it consists of individuals who enjoy utility from the education of their kin in different degrees. We should accordingly allocate weights to individual members of the family to correspond with the individual benefits they will receive. It is certainly plausible to attach some importance to the utility that the average parent derives from seeing his son prosper or from having the firm expectation that he will do do. The utility weighting for parents however would normally be

13. In many cases the students strongly wish to be regarded as independent from their parents. This is especially so in Scandinavian countries. The Finnish National Union of Students recently declared, with reference to the system of educational finance, "The parents' income and property should not be taken into account...since it places students who are of age in a factitious position of dependence on their parents." M. Woodhall, Student Loans: A Review of Experience in Scandinavia and Elsewhere (1970) In Sweden the university student assumes all burdens himself at age 20 years, but has the power of drawing against future pension rights in borrowing to meet the costs of further education. Higher Education: Who Pays...? Carnegie Commission on Higher Education 1973. p. 87.

quite low compared with that for the young member of the family who is the education recipient. The latter's is still the principal utility to be enjoyed from the life-time flow of benefits of the human capital investment. This is so not only because he enjoys the income directly, but also because the life-time during which he enjoys it is longer than that of the parent. For all these reasons, the criterion of (family) income group, which the above writers emphasize seems to us to be much less relevant than they believe. Similarly, the identification of the beneficiaries of education by Hansen and Weisbrod, in terms of average family income and average family taxes paid, seems also to do less than 'Rawlsian' justice to the issues.

The only plausible case for intervention that has emerged so far is the possibility that government can economize on some of the transaction costs especially collection costs, of education loans. Such intervention would be justified entirely on efficiency grounds. No case for subsidy has yet emerged. Similarly no case is yet apparent for consideration of any trade-off between efficiency and equity. In the next chapter we proceed to the remaining arguments for transfers (subsidies) to higher education.

Appendix to Chapter 3

TABLE A

FEDERAL TAXES BY REGION, 1959

Line	Item	Millions of Dollars					British Columbia
		Total-All Canada	Maritime Provinces	Quebec	Ontario	Prairie Provinces	
1	Individual Income Tax	5588.1	262.6	1341.1	2520.2	843.8	620.3
2	Corporation Income Tax	1991.4	114.3	402.8	781.4	359.1	326.9
3	General Sales (MST)	2294.3	156.0	594.2	945.3	355.6	243.2
4	Selective Excises						
5	(1) Alcohol	334.8	29.5	113.1	119.2	44.5	28.5
6	(11) Tobacco	486.3	28.2	127.4	208.1	67.1	55.4
7	(111) Others	73.1	5.0	19.1	30.0	11.3	7.9
8	Total	894.2	62.7	259.6	357.3	122.9	91.8
9	Import Duties	818.3	54.0	235.5	323.2	121.1	83.5
10	Succession and Estate Duties	100.7	6.2	23.9	45.4	12.8	12.5
11	Social Security						
12	(i) Unemployment Insurance Contributions	491.8	38.3	141.1	201.1	60.5	50.7
13	(11) Canada and Quebec Pension Plan	1017.2	134.4	276.3	340.3	170.8	100.1
14	(111) Public Service Pension Contributions	92.0	5.7	17.7	39.6	18.7	10.4
15	plus Interest on Employee Contributions	65.5	4.1	12.6	28.2	13.3	7.4
16	Total	1666.5	182.5	447.7	609.2	263.4	168.6
17	Total Federal Taxes	13353.6	838.3	3305.2	5591.0	2078.6	1546.8

Details may not add to totals, due to rounding.

Appendix to Chapter 3

TABLE B

PROVINCIAL TAXES, BY REGION, 1962

Millions of Dollars

Line	Item	Total	Atlantic Region	Quebec	Ontario	Prairie Region	British Columbia
1	Individual Income Tax	2142.7	95.7	814.8	752.1	279.1	190.6
2	Corporation Income Tax	690.5	42.1	143.3	274.8	122.9	109.2
3	General Sales Tax ^a	1675.3	156.3	531.5	645.3	132.6	209.6
	Selective Excise Taxes						
4	(i) Total	1754.3	159.5	510.0	648.0	294.8	142.0
5	(ii) Alcohol	502.6	57.0	107.9	180.4	94.8	62.5
6	(iii) Tobacco	171.3	10.0	65.3	73.0	23.0	--
7	(iv) Fuel Oil	1016.9	91.7	281.4	394.6	172.2	77.0
8	(v) Other	63.5	.8	55.4	--	4.8	2.5
	Social Security Taxes						
9	(i) Other	26.4	1.6	5.1	11.4	5.4	3.0
10	(ii) Workmen's Compensation	169.9	13.2	48.8	69.5	20.9	17.5
11	(iii) Total	196.3	14.8	53.9	80.9	26.3	20.5
12	Medical-Hospital Premiums	657.4	--	--	475.7	113.8	67.9
13	Succession and Estate Taxes	140.8	.3	44.6	73.2	--	22.7
	Other Taxes						
14	(i) Motor Vehicle Licenses	362.4	27.6	95.3	150.1	53.9	35.5
15	(ii) Premium Income of Life Insurance Companies	78.9	5.4	20.4	28.0	18.5	6.6
	Natural Resources Revenues						
16	(i) Rentals	116.3	5.5	17.0	44.4	23.9	25.5
17	(b) Royalties	485.6	33.0	126.7	199.6	74.8	52.4
18	(iv) Amusement Taxes	45.0	1.5	14.1	22.4	4.1	3.0
19	(v) Capital Stock Taxes	35.0	1.6	5.1	13.4	7.2	7.7
20	(vi) Total Other Taxes	1123.2	74.6	278.6	457.9	182.4	130.7
21	Total Provincial Taxes	8381.1	544.6	2380.8	3414.7	1157.1	899.9

Details may not add to totals, due to rounding.

Appendix to Chapter 3.

TABLE C
LOCAL TAXES, BY PROVINCE, 1969

Millions of Dollars												
Line	Item	Nfld.	P.E.I.	N.S.	N.B.	P.Q.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
1	General Sales Tax	--	--	--	--	6.6	--	.1	3.7	--	--	11.0
2	Real Property Tax	8.4	8.9	76.8	17.8	684.2	1240.3	122.1	139.9	211.4	315.0	2824.8
3	Business Tax	2.5	.7	2.8	--	51.6	165.4	8.9	9.7	11.6	8.4	261.6
4	Poll Tax	.5	.2	2.4	--	--	--	--	--	--	--	3.0
5	Other Taxes	1.3	--	.5	--	11.5	--	--	--	8.5	--	21.9
6	<u>Total Local Taxes</u>	<u>12.7</u>	<u>2.8</u>	<u>82.4</u>	<u>17.8</u>	<u>753.2</u>	<u>1402.6</u>	<u>131.7</u>	<u>153.3</u>	<u>231.5</u>	<u>323.4</u>	<u>3117.2</u>

Details may not add to totals, due to rounding.

EXTERNAL (PUBLIC) BENEFITS & THE EQUITY/EFFICIENCY
TRADE OFF

There is a well known argument for a subsidy that remains for critical assessment. It is the argument, previously touched upon, of public (as distinct from private) benefits. It rests on considerations of efficiency and not of equity. The proposition, in non-technical terms, is that because society at large gains from external benefits, society should provide financial support. More rigorously, since each family's utility function includes as an argument the consumption of externalities by other families; and assuming each family has a non-zero marginal rate of transformation between another family's consumption of education and each good it consumes itself; then public finance is called for to internalize the externalities. The so-called 'external' or 'spillover' benefits have still not been empirically measured.¹ In the opinion of some critics the implication that externalities can never be negative is not proven; whilst to others the belief in their significant positive externalities is rooted in hope rather than any firm evidence that they do indeed exist.²

If relevant public external benefits can be shown to exist it is possible that at last we can reach into the core of the argument for a trade-off between equity and efficiency; for it

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1. George Psacharopoulos, Returns to Education Elsevier 1973, Page 32.
 2. W. Hansen and B. Weisbrod in M.D. Orwig (1971) op. cit. Mark Nerlove argues "Unless, however the external benefits to society can be measured and valued, even if only crudely, the case for subsidies to higher education remains weak." Journal of Political Economy, Higher Education Symposium, Vol 80, June 1972.

s public external benefits that are allegedly to be traded off at the margin in exchange for more equity type I (between users). We can still maintain however that even after such a trade-off there need be no improvement in equity type II (between users and non-users). On this score indeed there can be some retrogression (see pages 45 and 46).

It may be tempting to argue that insofar as the public (external) benefits, are distributed regressively (pro-poor), this fact might adequately compensate for the progressive (pro-rich) distribution of private benefits. Our main reply has already been given (page 46). Even if external benefits were pro-poor (and any would make the opposite conjecture) this does not imply that the poor should be charged a higher than necessary 'tax price' for them. But what is this minimum necessary price? Discussion on this particular question has been seriously flawed in the past by the failure to distinguish between marginal and average externalities. We can explain this best by using some elementary geometry.

In Figure 1. the private demand for schooling for family j is shown by the curve D_j . If there was no intervention (and tax collection remained the same) family j would purchase OM units. Assume that government is first prompted to intervene not from capital market imperfections but from arguments of external benefits. Because of the external benefits the 'production' of schooling for j can be described in terms of joint supply of output; a unit of education simultaneously satisfies both private and community demand. The community demand is shown in Figure 1 as D_k . The optimal solution is to extend consumption until the vertical sum

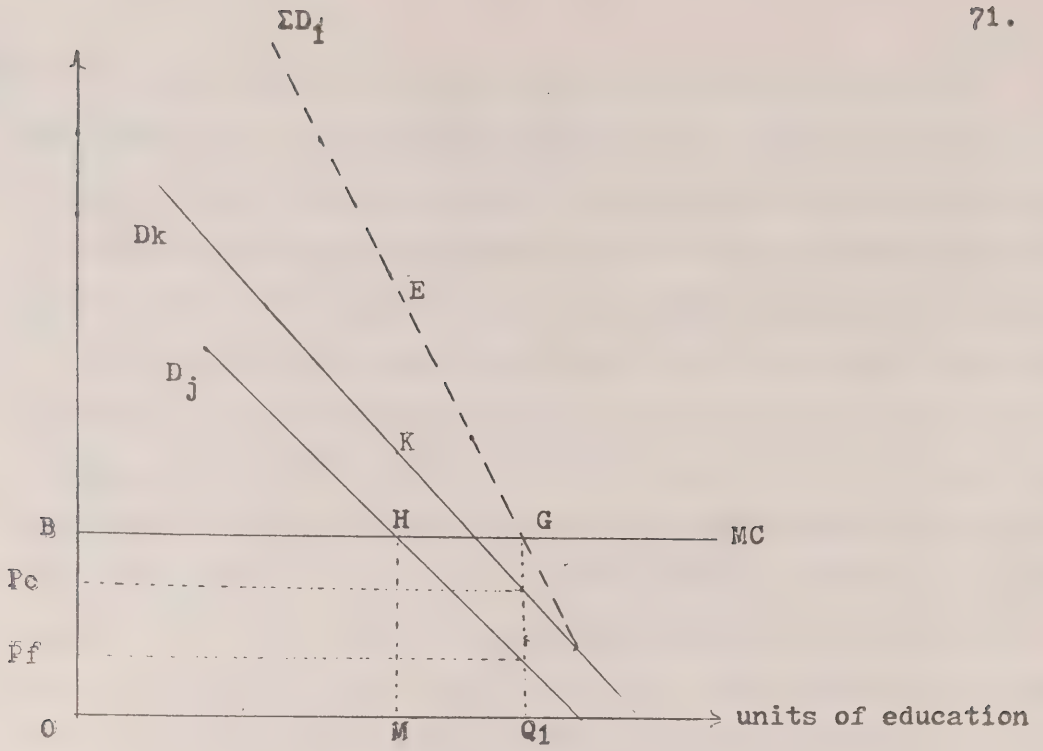


Figure I

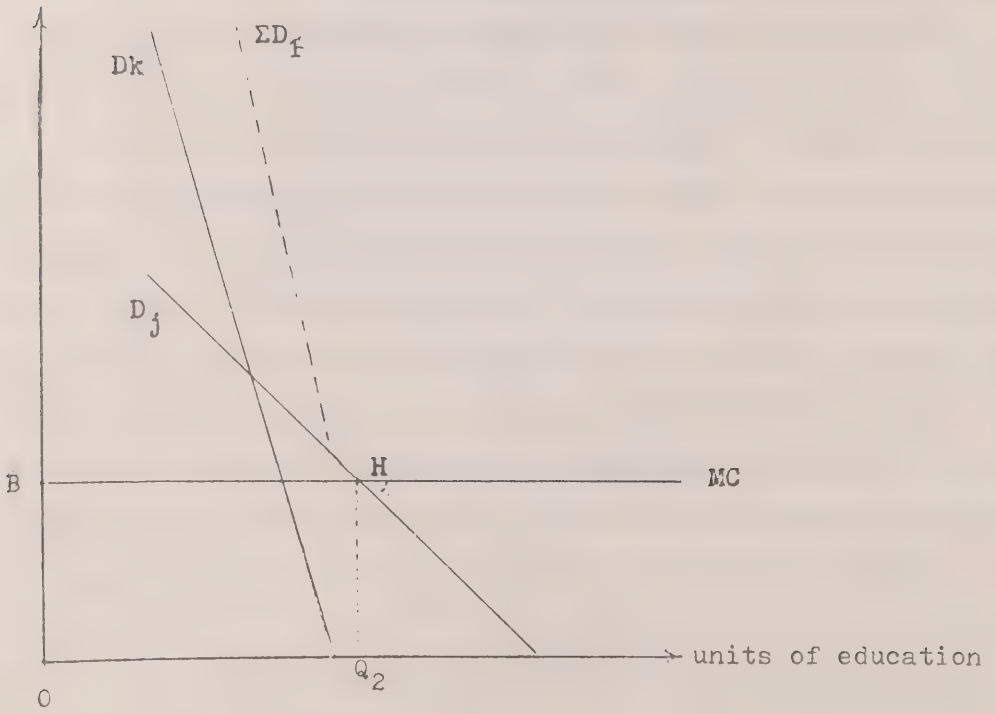


Figure II

of the demand prices, shown as ΣD_j in the diagram, is equal to the marginal cost, MC at output Q_1 . The two separate demand prices and therefore public/private cost shares at this consumption are P_c (the price to the community), and P_f , (the price to the family). The sum of these two prices equals the total per unit cost of $P_c + P_f = OB$. If, in contrast, the parties were to act independently they would each adjust sub-optimally until their separate marginal evaluations equalled marginal cost. Family j would for instance purchase only OM , whereas at this level the aggregate evaluation would be higher than marginal cost by $HE = MK$. Notice that the community pays a price P_c that is equal not to the average but to the marginal external benefits. The average benefits of course are higher than the marginal ones.

The flaw in this traditional reasoning is the assumption that the position and slope of D_k is inevitably similar to that illustrated in Figure I. This is not so; or at least has never been proved to be so. Figure II. shows the same private demand curve D_j and a community demand curve which, though having similar average external benefits, reveals zero marginal benefits at optimum consumption (Q_2). In this situation members of the community who do not themselves use the higher education system are certainly better off than they would be if family j purchased a significantly smaller schooling. They have benefited from family j's behaviour though, by assumption, they have paid none of the costs.³ In other words if private

3. These externalities are described in the literature as 'Pareto irrelevant'.

interest alone could lead to at least Q_2 schooling then there is no case from externalities for government financing of schooling. Any such financing would amount to pure transfers from users to non-users. In so far as the latter includes most of the low income groups, and since they contribute taxes, the government finance scheme would involve redistribution from the poor to the rich (or middle income group) and violate the crucial equity principle.

Hitherto we have referred to two prominent arguments in economics for intervention in education : (a) capital market imperfections (see Chapter 2) and (b) external benefits (this chapter). It is now time to show that the two are interdependent. Suppose government policy on (a) resulted in an 'unblocking' of the relevant (capital) market, or a modification that made it less 'imperfect'. This action will release funds for the private purchase of more education than before. In terms of Figures I and II this would mean a rightward shift in the private demand curve Dj, the community demand curve Dk being unaffected. In Figure II this would simply mean extended private purchases beyond Q_2 , the marginal external benefits still being zero and the consumer of education still paying the full cost OB (=MC.). If the original configuration of demand curves was as in Figure I, and in so far as marginal external benefits were still positive at the new equilibrium, there would be a new point of intersection with a new societal demand curve ΣD further to the right. This is illustrated in Figure III which differs from Figure I only in that Dj is further to the right and consequently so is ΣD (now ΣD_2). This change brings out an interesting consequence. The public/private cost shares have now changed:

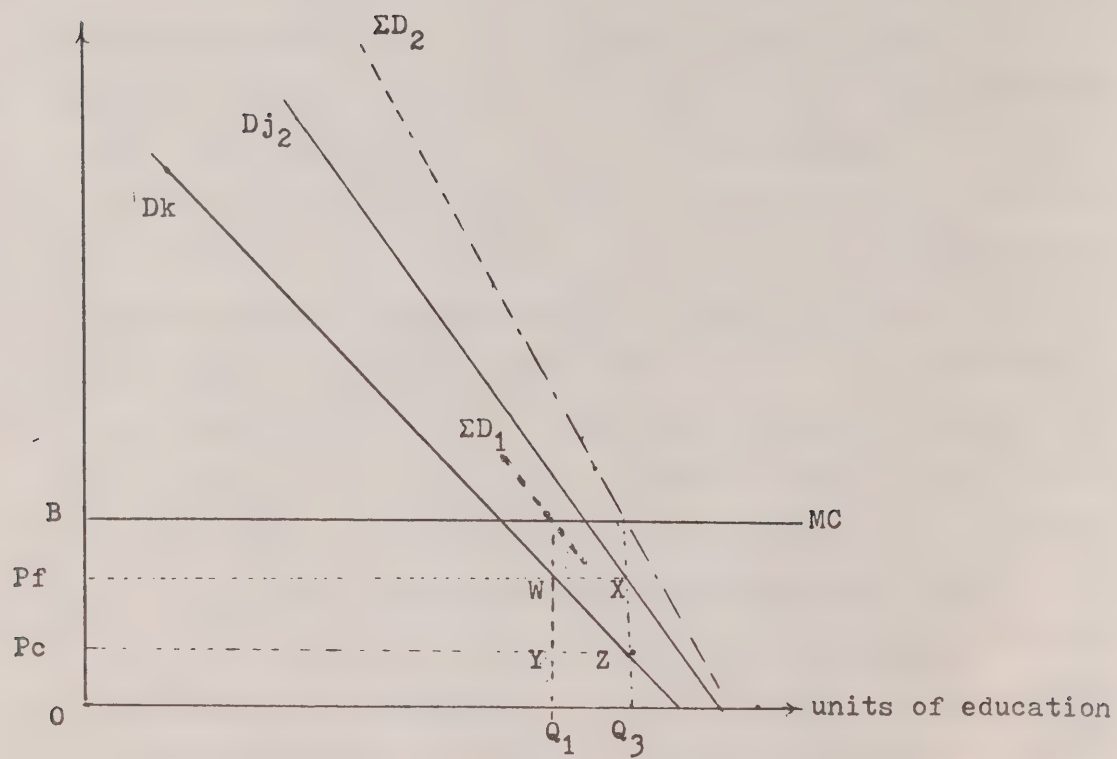


Figure III

the private share increasing and the public share decreasing. The present change from Figure I to Figure II is a move from a one third private share of the costs in Figure I to a two thirds share of the costs in Figure III (compare Pf in each diagram). The important policy implication, is that, on grounds of pure logic at least, any government that implements capital market improvements by way, for instance, of introducing a loan scheme that is superior to the private capital market, can, other things equal, call for increases in tuition charges. This conclusion is particularly relevant to our study because we are indeed arguing that more efficient loan schemes can be introduced.⁴

To put the whole matter more directly : we are not persuaded by any evidence that in the general case the externality argument is relevant for policy purposes. This follows because (a) some externalities may be negative, (b) and more important, it is just as plausible to assume that even though on average external benefits are positive, the marginal external benefits are zero; Figure II in other words is just as plausible as Figure I. Finally, and more relevant for immediate policy purposes, where governments are already subsidizing higher education on the explicit or implicit grounds that in their judgement the marginal external benefits are positive, then any improvements they introduce in the area of capital market access (loan schemes), can, other things equal, lead them justifiably to raise the private share of costs such as the tuition fees.

Maximizing Enrollments

Whatever the outcome of the discussion on the ideal size of the public grant - it seems clear that some positive subsidy will

4. In our diagram although the public share of total costs at Q_3 is now one third, the savings in total public expenditure falls short of one half its original contribution at output Q_1 . This is because of the extra public's share Q_1YZQ_3 of the increase in consumption from Q_1 to Q_3 .

continue to be made. Let us continue to assume that this future subsidization is based predominantly on the strong conviction of the existence of positive marginal (Pareto relevant) external benefits;⁵ the implication being that without intervention there would be socially insufficient private consumption of education courses. An efficient loan system has been introduced and the optimum public/private share of the costs has been determined. The public contribution, if efficiently spent, has the desirable result of increasing enrollments to the maximum extent within the budget constraint. Efficiency is then tested by checking the policy's ability to obtain maximum effect in increasing student enrollment.

We assume that low income families who do not participate in higher education (the non-users), acquiesce in taxes upon them to finance it primarily for the external benefits that they expect. To be realistic we shall assume that they give very low weight to such descriptions of externalities that have been suggested as 'preserving the cultural heritage' and place a much larger weight on the external benefits of research or 'invention and speeding the acceptance of new technology'.⁶ We shall suppose, for the sake of illustration, that a low income family will be willing to contribute for example towards the search for a cure of the common cold, a cure that may one day emerge from the process of research and higher education. The probability of such a cure is presumed to be correlated with enrollments in higher education. Assume nevertheless

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5. In so far as the external benefits mainly appear after the student leaves college and enters a trade or profession the object is to increase the number in these trades and professions. The most direct way to do this is to subsidize their wage rates. Subsidizing education is less direct and more costly because of drop outs and job changes.
6. Howard R. Bowen, "Finance and the Aims of American Higher Education" In M.D. Orvig, Financing Higher Education: Alternatives for the Federal Government 1971.

that it so happens that when the total tax subsidy (contributed by many low-income non-user families) are allocated so as to maximize enrollment expansion, it results in disproportionate enrollments from 'upper-middle income' families. Is this outcome inequitable? Certainly not on the Rawlsian criterion of equity. What would be inequitable would be a reallocation intended to obtain a 'better' social balance. The reason is that this policy would automatically increase the price of externalities (the price of finding a cold cure) faced by the low income non-users. If conditions were reversed however, and many more poorer or 'lower middle' students compared with richer students would be generated by the subsidy, there would be less of a 'problem' in the popular sense. Crucial to the debate therefore is a fuller analysis of typical demand elasticities.

We shall conclude this chapter with a model that illustrates several possibilities.⁷ We assume only two categories of students - those above the median level of family income in the population (measured as A_1), and those from families having incomes below the median level, (measured as A_2). 'Natural talent' and ability are not concentrated in one group but are shared equally by both groups.

7. The model and diagram are modified versions of those that appeared in Stephen A. Hoenack, "The Efficient Allocation of Subsidies to College Students," AER Vol. LXI, June 1971. We have benefitted from private correspondence with Mr. Hoenack.

Education is assumed to involve constant and equal cost per student. The demand for education is taken to be a positive function of income. Refer to Fig. II: Before intervention OB students from the A_1 group and $OC = < \frac{1}{2} OB$ students from the A_2 group are privately purchasing education.

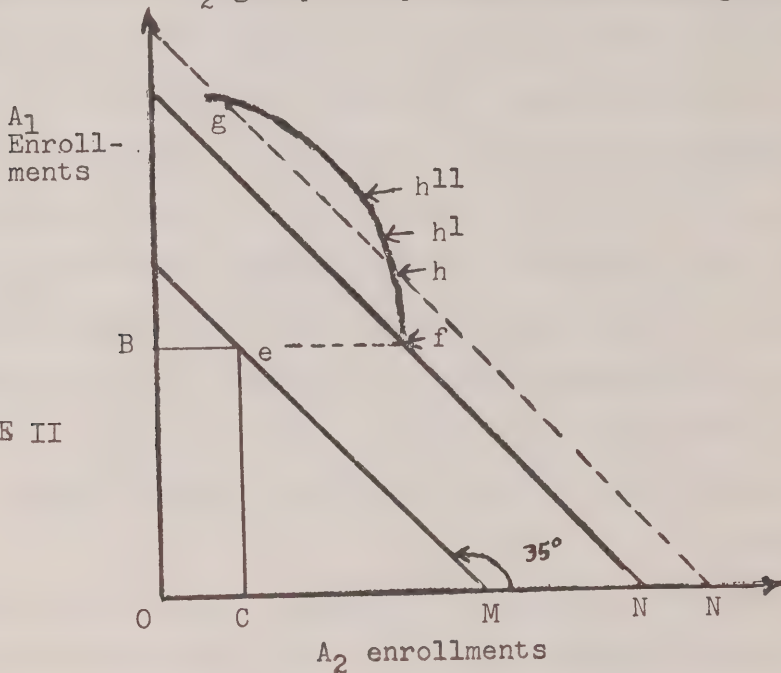


FIGURE II

This is represented by the point e. The fact that there are fewer enrollments in the A_2 group arises from the strong possibilities mentioned earlier, especially (a) the fact that the real transaction costs of borrowing are higher for low income groups (b) because of inequalities in lower education fewer individuals from the poorer group qualify for higher education. The total student body consists of 20 per cent of their age group and is measured by OM. Suppose that intervention is initially motivated by a demand for

Equity type (1) to obtain equal representation of student class. Disregarding income effects from the additional taxes required to finance education, a subsidy of size $\$X$ is used so as to reach a new equilibrium point f , due east of e . The subsidy expands the enrollments of lower income students so that they are now equal to those of upper income students. Total enrollment is now ON ($= OB + Bf$).

It is then acknowledged that this policy offends (Rawlsian) Equity type (2) because it is subsequently realized that poor non-users are facing too high a tax price for their external benefits. To test this we require to know whether a re-allocation of the subsidy will expand enrollments beyond ON . Refer to quadrant e.f.g. If the $\$X$ subsidy is marginally re-allocated so that some of it is received by some A_1 families, the new position might be point h . This would mean that this marginal switch will cause an expansion of enrollments in A_1 more than sufficient to compensate for a fall in A_2 enrollment. Total enrollment would expand to ON^1 . If this switching process was repeated, we might trace out a series of further points like h^1, h^{11} , that produce an Enrollment Possibility Function (EPF) shown as the curve f.g. Increased enrollments would continue so long as the slope of the EPF curve $\angle -1$. Maximum enrollments would occur where the slope $= -1$. This most efficient point would also be the most equitable on our criterion in the sense that low income non-users would obtain their external benefits at the

best price. It would imply, however, student intake that was socially unequal but nevertheless efficient. No trade off is necessary between efficiency and (Rawlsian) equity type 2; they are complementary, not competitive. This conclusion would be modified if the below median income group had a disproportionate number of naturally talented individuals. But if this were so, it might dictate student recruitment disproportionately from the A_2 group. It would be a rare coincidence that the efficient solution was one with a student body that was recruited exactly equally from A_1 , and A_2 sub-groups.

The Appendix to this chapter, contains a mathematical proof of the vertical bias in the EPF curve when private enrollment is a function of income and 'talent' is 'evenly' distributed; and it is the vertical bias in the curve that dictates the unequal, but optimal, student mix.

Appendix to Chapter 4

On the one assumption that the demand for education is a positive function of income and that talent is 'evenly' spread, we can show that in the North East vicinity of point f the slope of EPF will be less than -1. The subsidy per student is the difference between c_i , the cost per student, and the tuition p_i (not shown in Fig. II). The EPF function faces the constraint $\Sigma(c_i - p_i) A_i A_2 = \text{constant} = X$.

$$c_1 A_1 - p_1 A_1 + c_2 A_2 - p_2 A_2 = X$$

$$C_1 dA_1 - d(p_1 A_1) + C_2 dA_2 - d(p_2 A_2) = 0$$

$$(C_1 - MR_1) dA_1 + (C_2 - MR_2) dA_2 = 0 \quad \left[MR_1 = d\left(\frac{p_1 A_1}{dA_1}\right) \right]$$

$$\frac{dA_1}{dA_2} = - \frac{(C_2 - MR_2)}{(C_1 - MR_1)}$$

The slope of the EPF function $\frac{dA_1}{dA_2} < -1$ if $MR_1 > MR_2$.

This latter inequality can in fact be demonstrated in the vicinity of the given level of attendance represented by f, if demand (q) is a linear function of price (p) and income (y):

$$q = \alpha + \beta p + \gamma y$$

$$p = \frac{q}{\beta} - \frac{\alpha}{\beta} - \frac{\gamma}{\beta} y$$

and if individuals have the same tastes for education so that these last two equations apply to all. MR can now be calculated as a function of income:

$$MR = \frac{\partial(pq)}{\partial q} = \frac{\partial(q \cdot \frac{q}{\beta} - q \cdot \frac{\alpha}{\beta} - \frac{\gamma}{\beta} y \cdot q)}{\partial q}$$

$$= \frac{2}{\beta} q - \frac{\alpha}{\beta} - \frac{\gamma}{\beta} y$$

$$\frac{\partial MR}{\partial y} = \frac{-\gamma}{\beta} \text{ which is positive when } \gamma > 0 \text{ and } \beta < 0.$$

Chapter 5THE LOAN/SUBSIDY RELATIONSHIP AND THE
ONTARIO COMMISSION'S REPORT

The Nova Scotia Royal Commission on Education, Public Services and Provincial-Municipal Services, observed in its Report published in September 1974:

"It remains to examine whether the benefits that are assumed to accrue to the general public from the great increase in the numbers of students attending university justify the cost. Since, in the aggregate, the income transfers flow from persons who do not like university training to those who do, and since the lifetime incomes of the latter on average exceed those of the former, the precise question to be asked is whether those who subsidize university students derive substantial benefit when the number of students increases."

We have already given our own reasons why we also believe that this is the precise question to be asked. Indeed it was at the centre of our argument on efficiency and (Rawlsian) equity in Chapter 3 . Here we shall make the question still more precise. On the assumption that there are some public benefits from higher education, the taxpayer still has to be shown (a) the particular areas that need subsidies most, (b) that the marginal social benefit exceeds the marginal subsidy. These points are especially relevant to the search for optimal loan systems. If student fees are going to be subsidized according to the degree of public benefit expected from their particular year and subject of education, the demand for loans is likely to be inversely related to the benefits generated. How then should the public subsidy be distributed within post-secondary education?

Recent discussion has suggested that the pursuit of public benefits (externalities), as distinct from private benefits, from post-secondary education does not necessarily imply that subsidies be targeted on individuals with low-income parents more than on others. One economist has proposed that "a good starting point for developing criteria for the appropriate distribution of subsidies to ensure that public benefits are preserved is that all students in post-secondary education should receive approximately equal subsidies".¹ In this chapter we shall first develop a similar argument, but from a different and more rigorous approach. Second, we shall analyse the practical and theoretical barriers to such a policy that have recently been raised by the Commission on Post Secondary Education in Ontario.² Third, and finally, we shall find it necessary to make an economic analysis of the shifting by professions of the burden of increased costs of training and education-which was the main barrier to equal subsidies that was alleged by the Commission.

The Argument for Equal Subsidies

Hartman's proposal for equality of subsidy should logically refer to equal total, not annual, subsidy. The

1. Robert W. Hartman, 'A Comment on the Pechman-Hansen-Weisbrod Controversy', Journal of Human Resources, Vol. 5, No. 4, 1971.

2. Draft Report, 1972.

predominant effect would be to discriminate against groups who participate in programs of the longest duration. Thus every student might receive for instance a subsidy to cover an average three or four year post-secondary period in training - no more and no less. Those going into the professions that demand at least five years training, professional workers such as architects, lawyers, dentists and doctors, would therefore be obliged to pay in full by direct payments, aided no doubt by a loan system or its equivalent, for their last two or three years of education.

Hartman argues for the proposal because we have no precise knowledge of the differential strengths of the external benefits from each program: from engineering compared with social work for instance. In the absence of this knowledge, equal subsidies to each educational program is, according to Hartman, as good a rule as any. Our own reasoning is different. It relates to the fact that taxpayers are interest only in 'buying' those public benefits (externalities) that are called in economics 'Pareto relevant'. That is they are not interested in spending money on those increments of external benefits which at the margin, as distinct from the average, have zero value see the argument in the previous chapter (Page 70). A simple example of this is the case of individuals who receive the extended benefits of his neighbour's well cultivated garden. Average, but not marginal benefits are positive; the

neighbour does not charge the benefitting members of the locality; and such a charge is not necessary to generate them; the public benefits are 'Pareto irrelevant'.

Consider now a rule of 'diminishing Pareto relevance', a rule which is really a simple corollary of 'Pareto relevance'. It is plausible that in many fields of education 'relevance' diminishes with increasing duration of it. As more years are added to an individual's training, the less publicly relevant may further marginal increments of it be. 'Relevance', moreover, is likely to decline progressively. This is because the longer the education the more aware the individual will be of the private benefits. This is likely because education itself widens the individual's horizons and gives better labour market information. The individual thus becomes less and less likely to under-invest in himself from society's point of view the longer he stays in institutionalized education. Those who are at the earlier threshold stages of higher education, require the biggest encouragement to participate at a minimum level and so to render the appropriate external (public) benefits. Evidence now available shows strong correlation between an individual's years of schooling and labour market information. But the longer he is in university and the more he is informed on the private benefits the less subsidized financial inducement he will need to continue his education. In a survey in 1967 of undergraduate and graduate students, contact with college

professors was rated among the top three most important sources of information about occupational and career opportunities. The proportion of graduate students rating professorial contact as 'very important' was 45 per cent. This compared with a proportion of 28 per cent of undergraduates.³ This latter evidence is not entirely conclusive however. We must take into consideration that graduate information sources are limited because specific (academic) jobs are being sought.

There is an additional influence that makes the awareness of private benefits, and therefore the private incentives to education, increase progressively. The longer the education the higher the average probability of an exceptionally large life-time stream of expected income net of foregone earnings. Internal rates of return from education in most professions usually increase with the number of years study. This observation may be made notwithstanding the increase in unemployment of Ph.D.'s associated with the recession of the early 1970's. Theory and empirical observation suggests that higher unemployment of new graduates typically means no more than a delay in entry or a queue for the bigger paying and 'longer lived' occupations.⁴

3. Richard B. Freeman, The Market for College-Trained Manpower: A Study in the Economics of Career Choice, Harvard University Press, 1971, p. 195.

4. M. Blaug, P. R. G. Layard and M. Woodhall, The Causes of Graduate Unemployment in India, 1969.

Consider next those professions that use education as a means of restricting entry, a process sometimes described as 'certification'. Here the highest prizes of all await those who can survive the last two or three years of the lengthiest course requirements, or who can qualify for them. A big earnings differential is made between the individual who has finished his degree and the one who has decided to terminate somewhat short of this position. This is even more prominent in the certified professions such as law and medicine. In these instances, the uncertified individual is often prevented by law from using those skills he has acquired. Since there are only small private benefits from all but the final year of education programmes, and since it would seem strange that all public benefits of education are generated in the graduating year, then it would seem that the public incentive should decline with each year of the programme. In other words, the lure of exceptional rewards in the last year of training, especially if they contain monopoly rents, is an incentive which tends to replace or weaken the need for additional encouragement in the form of the public subsidy.⁵

Since the individual's recognition of private benefit increases with education, there is an increasing

5. A Canadian doctor can now expect over a lifetime to receive income of over \$1 million. The direct cost of his last two years' training, most of which is presently subsidized, was about \$15,000 or 1½ per cent of his minimum total expected earnings in 1971.

likelihood that the longer a student stays at college the more incentive he will have to seek loan facilities if alternatives are not available. The claim that loans militate against working class participation because such groups have neither the knowledge nor the willingness to saddle themselves with debt applies least of all to students who already have 3 or 4 years of higher education behind them. Not only does this group possess above average knowledge and sophistication, it also faces the smallest risk in such loan investments. This latter point means that, other things equal, the risk adjusted interest rates on loan finance should fall with increasing quantities of education. This in turn again implies a differentially smaller need for public support at the older end of the student spectrum.⁶

The Ontario Commission on Post-Secondary Education's
Proposal for Equal Subsidies

Whilst the above analysis is often accepted by members of Commissions of Enquiry into Education, it is sometimes received merely as an exercise in logic. One

6. At first sight recent evidence from Yale University's new scheme of 1971 may suggest that the opposite. Yale freshmen participated in the new loan program to a bigger extent than advance students. However the system is only in the initial stage and the early results can be taken as evidence that the plan has attracted those students of middle class parents on whom it was targeted.

severe practical disadvantage remains in their eyes to block any serious implementation, in the form for instance of charging full (or high) fees for the last two or three years' education of senior students entering professions. This is the belief, that the professions will in turn shift the burden of their increased costs of education by charging consumers higher fees for their services. If colleges charge a dentist for instance the full cost of his last two years' training dental bills will eventually go up accordingly. Each economist no doubt will have his favourite and ready response to this kind of proposition. In striving for the best and most thoughtful reply to it we have found that there are more facets to the problem than are first suspected. But after reviewing all of them, we are of the firm opinion that the argument must be rejected; but for more reasons than we originally expected. We shall continue the discussion in the context of the recent deliberations of the Commission of Post Secondary Education in Ontario.

The Draft Report of the Commission on Post-Secondary Education in Ontario (1972) contains three features of particular interest to the economist: first, it contains the proposal that in future there should be a 50-50 private and public sharing of institutional costs; second, it emphasises the need for separate budgeting (e.g. between items such as research and teaching); third, it offers bold criticism of monopoly practices in the professions, notably

in the form of their recent upgrading of educational requirements in an attempt to control entry. The Commission makes two arguments in favour of the 50/50 rule. First it contends (p. 43) that this rule would make clear to the student that for each dollar he pays toward his education, the public also contributes one dollar. Second, an increasing element of justice and rationality is brought to students above the level of general arts and science (who are already paying most of their share of instructional costs). The first argument is supported (p. 39) on the grounds that the traditional method of providing public support in the form of institutional grants has concealed from the public and from students the actual amounts of subsidy being received. If each individual student was more aware of the real costs involved there is a probability that this productivity in his education would increase. It is not clear to us why one can say a priori that awareness of costs, if somebody else is covering them, would increase productivity. The argument moreover could apply equally well to other simple ratios. A student contribution of two-thirds of the total cost of instruction and a public share of one-third (or vice versa) could be equally justified. In this case the student would realize that for every two dollars spent by him the government was contributing one dollar. In the same way a combination of simple ratios for different groups of students could also claim the same advantages. For example a $\frac{1}{3} : \frac{2}{3}$ ratio for training in social work and a $\frac{2}{3} : \frac{1}{3}$ ratio for dental training would fulfill the requirements that the Commission seeks.

Consider next the second advantage that is attributed to the 50/50 rule by the Commission. This is alleged to consist of the provision of an increasing element of justice and rationality. It has to be shown however why a combination of simple ratios, as just illustrated with the social worker and the dentist, could not achieve 'justice and rationality' even more effectively. Evidently the 50/50 yearly ratio will amount to a considerable inequality between groups when compared with a 50/50 ratio applied to the total course subsidy i.e. the annual subsidy multiplied by the number of years training. This is illustrated in Table II which is based on the figures used in Table IV.4 of the Draft Report. As a preliminary, Table I reproduces most of the Commission's Table IV.4.

TABLE I

PROPOSED FEES AND GRANTS PER STUDENT FOR
EDUCATION SERVICES, ONTARIO UNIVERSITIES AND
COLLEGES (FOR TWO SEMESTERS; AT 1970-71 COST
LEVEL)

Enrollment Category	<u>Total Annual Educational Cost Per Student</u>	<u>Proposed Annual basic grant on 50/50 rule</u>	<u>Proposed Annual Fee on 50/50 rule</u>
1 Universities General Arts & Science C. A. A. T. S. Applied Arts & Business	1,250	625	625
2 Universities Engineering, Architecture, etc.	2,200	1,100	1,100
3 Universities Medicine, Dentistry Post Graduate Study	3,000	1,500	1,500

From Table I we can derive the total subsidy received by a student over the whole of his post-secondary education. To do this we multiply the annual basic grant by the number of years that he spends in his course(s). For the first row we multiply \$625 by three (=\$1,875) since this represents the typical number of years spent e.g. in a general arts course. The third row (category 3) relates to individuals who typically spend about 7 years in post-secondary education. On average they receive the first four years at or near the subsidy rate shown in the second row (category 2) and the last three years at the rate shown in the third row of Table I. This gives a total proposed subsidy to this latter group of \$8,900. These results are shown in Table II.

TABLE II

<u>Enrollment Category</u>	<u>Total Educational cost for the whole post-secondary education</u>	<u>Total Subsidy or basic grant according to 50/50 rule</u>
Universities		
General Arts & Science		
C. A. A. T. S.	3,750	1,875
Applied Arts & Business		
Individuals with a first degree who proceed to:		
Medicine, Dentistry		
Post Graduate Study	17,800	8,900

It can be seen from Table II that individuals in the third category receive over three and one-half times as much public subsidy as those in the first category (or an excess of \$7,025).⁷ It therefore seems that the Commission's 50/50 rule is not very promising with respect to its stated objective of securing an increasing element of justice or equity between student groups.

7. This considerable difference would be increased still further if one rejects, as many observers do, the Commission's assumptions of how much conventional cost in the third category is properly attributable to research. The annual income per student in, for instance, the Basic Medical course received by educational institutions in 1971 was \$8,250. In the Commission's estimates only \$3,117, or less than half, is ultimately attributable to instructional costs proper, the rest largely constituting research costs. The student income for general Arts and Science is, in contrast, reduced by only one-quarter for research allocation.

The expensiveness of post-secondary education to the individual student should also be seen in the perspective of his total expected lifetime earnings. In 1969 the private net present values from selected professional training courses were as shown in Table III.

TABLE III

ANALYSIS OF PRIVATE RETURNS BY PROGRAM

Program	Net Present Value, \$ (Males)
1. Dentistry	95,348
2. Medicine	75,551
3. Law	45,789
4. Veterinary Medicine	34,291
5. Pharmacy	25,492

Source: Systems Research Group, Cost-Benefit Study of Post-Secondary Education in Ontario 1968-69, Table 40

Thus a person who successfully graduated and entered the profession of Dentistry in 1969 received the equivalent of a capital sum which had a present value in 1969 of \$95,348. This figure of course represents only the discounted total increases of future income expectations. Even if the candidate decided not to take up training for this profession and did not enjoy the above increases, he would still be equipped with considerable post-secondary education that would enable him to earn an above average income.

The Commission supported its 50/50 sharing rule because in its view such a rule will provide clear information about the true cost of his education to the student, 'while bringing an increasing element of justice and rationality' (p. 43). With respect to the goal of justice we have shown that the Commission's proposals have in fact relatively small effect in removing the biggest feature of inequity between students -- the greatly disproportionate amounts of total public subsidy enjoyed by individuals who have more than four years of training; individuals who also expect on average to earn among the biggest life-time incomes. Bearing in mind that the Draft Report also advocates a much more extensive loan scheme, it is difficult to see why the Commission did not recommend a much bigger private coverage by this means for all programs after the 4th year and a corresponding change in the 50/50 grant rule. The difficulty

is all the more pronounced in view of the Commission's bold attack on the escalation of training requirements demanded in the self-governing professions. It will be helpful to reproduce here a brief recapitulation of the Commission's challenging arguments on professional licensing and certification.

Observing the recent tendency for increased schooling requirements before a candidate is allowed to be licensed as a professional practitioner, the Commission (p. 21) challenges the idea that this is necessarily based on the need for "excellence" or for "safeguarding professional standards". Its suspicion is aroused by the fact that often the increased requirements call merely for additional years of schooling or additional diplomas or degrees in any field at all. Thus the Institute of Chartered Accountants now requires a university degree in any area before candidates may sit for their examinations. With respect to law schools the competition for places has resulted in candidates "being required to hold at least undergraduate degrees, so that the L. L. B. degree now requires seven or eight years of post-secondary education". As another illustration the Commission quotes a recent survey that revealed that one in eight of a university medical intake already held Ph. D.'s. Meanwhile the Association of Professional Engineers has announced that it intends all future candidates to hold university degrees in engineering (involving four year

programs). The Commission shrewdly argues that if examinations are required to protect the public from malpractice, the disturbing implication is that most of those now registered are evidently not so qualified. The Commission rejects this implication however. In its opinion most established professional workers are already reasonably qualified. Consequently extra degree requirements are unnecessary and will lead to wasteful over-education. In the same vein the Commission makes strong criticisms of the practice of public and private bureaucracies resorting to more and more formal educational attainments as criteria for job classifications and promotions.

Such strong argument seems to demand at the very least the discontinuation of those practices in the traditional system of education financing that disguise the true economic costs. The Commission apparently has this in mind when it complains that the presently evolved financial system has concealed the declining significance of tuition fees. This trend in turn "has made attendance at post-secondary institutions more attractive, though not necessary more socially useful or individually productive, than would have been the case had everyone concerned been more aware of the real costs involved." (p. 39 our italics). Among those 'concerned' are other government departments, or, in the Commission's language, the 'public bureaucracies'. The implication is that such bodies would have been less eager

to prescribe more formal training for their employee candidates had the post-secondary education system not encouraged the process by employing unrealistically low 'shadow prices' for the supply of education. Judging by the Commission's strong criticism of the monopoly professions this defect in the educational system is even worse in this context. Indeed here it may well amount to unintended public co-operation or acquiescence with anti-social monopoly practices. In both cases the problem becomes increasingly critical with the duration of education since: "As a rule, it can be said that the longer the student stays in university, the larger the average public subsidy - in other words, each additional year is more expensive; furthermore, the higher average costs are associated with professional training, the greatest being in those professions that show greatest returns to individual graduates in professional earnings" (p. 41).

It must be repeated that in view of its trenchant remarks upon 'excessive' professional 'certification' it is most surprising that the Commission's proposed new plan of finance leaves largely intact the ratio of relative advantages enjoyed by the professional graduate over others. The fact that the same plan would in fact continue to disguise much of the true costs of education has already been illustrated in the first two tables. The proposals will therefore do little to discourage the increasing educational demands of the 'public bureaucracies'. Similarly the plan will work as if

to co-operate with rather than to combat those very practices of the self-governing professions of which the Commission itself is critical. Having searched the Draft Report for some clues to this striking inconsistency one may find two possible explanations. The first is the use of the phrase 'increasing element of justice and rationality' to describe the goal of the new plan. It is possible that the test of 'rationality' is another way of saying 'political possibility'. If this is the case it is arguable that those most qualified to make such judgments are the government leaders who receive the plan. These leaders are best assisted meanwhile if they are presented with a wide menu of possible policies rather than a single pre-selected one.

The second clue to what appears to be the serious inconsistency just mentioned is to be found just after the Commission acknowledges (on page 41) that in view of its desire to achieve a more equitable distribution those who benefit more should pay a larger proportion of the cost. At this stage of argument the Commission hedges with two main considerations. First, it emphasises that the costs of research should be deducted from the costs of education. Since the Commission later makes this adjustment in its Table IV-4, and since, as we have shown, these adjusted figures do little to achieve more equitable subsidy ratios, it seems we must pay fullest attention to the second argument inhibiting the Commission from advising charges according to

private benefits. This is contained in two sentences (pp. 41-42):

"There is a strong possibility . . . that any shift in the cost of professional training would be largely passed on to the consumers of the professional services. The justification for such a shift is convenient and traditional: members of a profession have to charge more money because of the high cost and length of their training."

This argument which seems to be a pivotal one in the Commission's thinking, is erroneous. The various reasons for this verdict will now be demonstrated. First, the reasoning in the quotation is not applicable to the public bureaucracies that the Commission found just as prone as professions to increase the educational requirements of new entrants. There is no obviously analogous way by which such bureaus can shift the burden of educational costs on the 'consumers'.⁸ Second, and much more important, the Commission gives no reason why it would not be preferable for the professions to go ahead and charge more to consumers directly and for the public education authorities to charge according to educational benefits received. The fact is that the latter course is the most consistent with the Commission's much emphasized advocacy of 'separate budgeting'. If it is in the public's interest to separate the costs of education from other costs such as research, then it is equally

8. There may in fact be ways but the possible explanations are so complex that we have no space to review them here. The reader should consult William A. Niskanen, Bureaucracy and Representative Government, 1971.

in its interest to separate the non-educational cost of 'subsidizing' or 'pegging' professional fees below what they would otherwise be. The public would at the very least be no worse off because increased charges for professional services would presumably be offset by lower taxes of all kinds. They would also be better informed.

In one sense the Commission's arguments for an increase to 50/50 ratio in the public/private cost shares converges with, and to some extent strengthens ours. We argued, in Chapter 4, that increases in the private share of education were justified where efficiency improvements elsewhere in the system, namely the capital market, were effected. The Commission reinforces this direction of policy but start from an opposite position. They argue that the higher private share of costs will itself increase efficiency in the system (because (a) students will be more productive in generating human capital (b) monopoly elements in the professions will be combatted). Our starting argument (Chapter 4) was that it was increased efficiency in loan schemes that logically implied increases in private shares of the costs. We believe that the increased private financing that the Commission encouraged would in any case demand larger dependence on loans. Our own emphasis of course has been upon the loan system to start with. From all points of view we are led eventually to study empirical implications concerning extended 'credit for college,' Chapter 9 which will be devoted to this task will investigate among other things the effects of 20 year loans upon selected incomes of professional individuals who are faced with paying on the 50/50 basis recommended by the Commission.

Meanwhile, even though the private cost increases are financed

in the most 'painless' way (by loans) we shall return to the Commission's inhibiting view that the cost increases will be passed on to the public. It will be helpful to devote the rest of this chapter to a test of the validity of this reasoning using economic theory.

The Economics of Fee Shifting⁹

The simplest approach to the application of economic theory is by way of examining some basic models based on three initial assumptions that will later be relaxed. Assume first that a given profession sells its services not via government agencies but entirely direct to the public. Assume, secondly, that monopoly elements are absent (free competition exists). Thirdly, assume that the education

9. I wish to acknowledge the benefits of discussion on this section with John Horne, Professor of Economics, University of Saskatchewan.

of professional candidates is normally 100 per cent successful; in other words, assume that there are no public wastages in the form of educational withdrawals, failures, or dropouts.

It seems clear that under these combined and special circumstances most of the increases in charges for the education of professional trainees will be passed on in higher professional fees to the public. This is because the supply schedule of professional labour will decrease whilst the demand schedule will remain constant.¹⁰ This however is an allocatively efficient result. Only those resource costs of education hitherto covered by public subsidy will be passed on. The consumer is now in a better position to judge the (marginal) benefit of professional services when the market prices of these services are undistorted reflections of social opportunity cost. True, individuals pay more when they consume such professional services as those of lawyers, architects, engineers, etc.; but this is offset by increases in private disposable incomes due to tax reductions. If the system aims to respect the "benefit principle", this policy involves a further public gain. Those individuals who make heavier than average use of the services of architects for instance, will not be paying correspondingly higher total "tax" payments in the form of increase direct expenditure. Others will pay less. This

10. The supply curve will shift to the left and intersect a constant demand curve at a higher point than before.

is consistent with the objective that individuals should pay in proportion to the benefit received.

The relaxation of the third assumption of no educational failures has important consequences. Wastage is certainly an observed fact of life. It is arguable that higher fees for education will cause the public costs of wastage through failures and dropouts to be reduced since more substantial direct costs to students might compel them to take greater care over their career decisions. If wastage is in fact reduced the supply schedule for (successful) professional personnel will not decrease quite as strongly as was previously assumed. This being so the increases in fees for professional services will not be so high.

When the second assumption is relaxed the profession becomes a monopolistic one which restricts entry, a situation which the Commission seems to have most in mind. If the profession sells its services directly the public will this time be charged not market prices but monopoly fees. Assume that the restriction on entry is fixed by means of quotas for professional training-school places. In effect these places are rationed so that many potential professional members are rejected. Those admitted obviously enjoy the prize of entry to a monopolistic profession - a prize which is equivalent to a considerable capital gain when excess future life-time earnings are discounted to a present value. An illustration is contained in a recent analysis of applicants

to Canadian Medical Schools in 1969. Out of 1,691 "acceptable" applicants, 439 or 26 per cent were rejected by all schools to which they applied.¹¹ It is important to notice that if educational fees are raised this will not affect the income of those who control the monopoly professions since they have already been trained. In the short-run the only effect of raising education fees is to lower the internal rate of return to those newly entering the profession. The higher cost of their education includes in essence a tax on monopoly rent the proceeds of which go to the public. For these individuals the charging of prevailing monopoly fees (over which it is assumed they have no control as yet) is quite consistent with their earning a good competitive rate of return on their education. Moreover, the existence of an excess demand for education at the subsidized price suggests that the substitution of price for non-price rationing will not reduce the number of entrants. As a consequence, there will be no short-run shifting of higher educational costs at all.

The Commission was aware of the problem of a high ratio of applicants to admission to the well-paid professions. As the main solution, however, it recommended a lottery as an instrument of selection (Recommendation-30). It saw the

11. R. M. Grainger and N. E. Collishaw, "Canadian and Landed Immigrant applicants to Canadian Medical Schools for 1969-70", C.M.A.J. Nov. 1971
Applicants were classified as "acceptable" if they had met all requirements, formal and informal, for admission to at least one school to which they had applied.

problem mainly as one of avoiding discrimination among applicants. What it overlooked was that by issuing lottery tickets at zero prices it was itself recommending the continuation of another more serious form of discrimination. The Candidates for the lottery tickets are persons who already hold one degree and can therefore typically look forward to higher than average life-time income even if they lose in the lottery stakes. Meanwhile the majority of taxpayers who have helped subsidize their education and are not themselves so highly educated or enjoying similar life-time income expectations continue to be discriminated against both in the form of 'excessive' taxes and monopolistic professional fees. In other words the Commission's lottery recommendation was based upon a concern about equity among the members of a relatively rich sub-section of society. We have agreed that the serious problems of equity centres upon the relation of this group as a whole and the majority of less highly educated but tax-contributing citizens. The policy that moves more directly to the problem of 'true equity'¹² is to charge fees for the further education of graduates that are more fully in line with the costs.¹³

12. In Chapter 3 we described this as 'Rawlsian' equity or Equity Type 2.

13. Another problem with the Commission's proposal is that it seems to be based predominantly on an objective of creating more 'social mobility'. The trouble with this objective is that it remains obscure if the Commission has no formula for deciding the optimum (target) numbers of people from working class origins that 'should be' in the higher ranks say of law, medicine, engineering, respectively. Meanwhile the lottery will not make much (footnote 13 continued on next page)

Some will argue that increases in the training costs of graduate candidates for the professions provide an 'excuse' for the monopoly leaders to charge more, even in the short-run. This however implies that they are not already exploiting their monopoly to the full. If they enjoy a monopoly situation they do not have to wait for 'excuses' to exploit it fully and as soon as possible. If they are not doing so already one must presume this is a position of transitional equilibrium (or 'temporary disequilibrium') and they are on the way to doing so regardless of the future availability of new 'justifications'.

It may be argued that the possibility of full fee shifting is more substantial in the long-run. One may assume quite reasonably that those who acquired their education at the unsubsidized price will, after a period of years, be in a better position within their profession to try to set fees and hence capture monopoly rents previously denied. But why should they be so motivated? On average they will be earning the

13. (Continued)

impression anyway. We have quoted figures that show that candidates for medical schools have about a one in four chance of rejection. According to the Cost Benefit Study undertaken for the Commission by the Systems Research Group (Vol. 1, p. 85) only 10 per cent of students in Honours General Science (the typical pre-requirement for medical schools) come from the lowest income group. The probability of students with such backgrounds winning lottery tickets would therefore be $1/4 \times 1/10 = 3$ in 40 chance. Assuming that there is already a probability of say 3 in 80 of a 'poor' student becoming a doctor the effect of the lottery would be to determine that out of every 80 doctors there would now be six instead of three with 'poor' origins. This is not likely to cause much excitement in any quarter.

competitive rate of return on which presumably their original decision to invest on an (unsubsidized) education was based. Should this not be the case and some attempt is made to increase monopoly power the assumed time period is sufficiently long to permit the government to implement the strong anti-trust policy that the Commission seems to have in mind (p. 22).

So far we have maintained the first of our three initial assumptions and have been speaking of a monopoly profession that sells its services directly to the public. When we drop this assumption we have to consider a profession that sells its services mainly (e.g. 90%) via government purchase and partly (10%) through charges to the consumers. This is the typical case of medical services under a government system of medicare. It is now arguable that any attempts by the profession to pass on the extra private costs of education (and we still question whether they would be so motivated) would be resisted by the government which now sets the fees.¹⁴ Some ability might remain however with regard to the private (10%) element of bill charges to consumers. Where price-discrimination is practised the richer members of the consumer group would probably bear the full burden. In this case not only would the benefit principle of taxation be more fully applied, there would also be a reduction in the inequality of income through the equivalent of a progressive tax on rich patients.

¹⁴. Government could alternatively set the percentage of the fee it will pay.

We conclude that, in the context of externalities (public benefits), the argument for equal amount subsidies is a strong one. The argument is more cogent when it is pointed out that equality of support implies full cost, or nearer full cost, fees for the longer (professional) courses. These higher levels of education no doubt render external benefits but probably many that are not Pareto relevant. The argument that a given profession will pass on any increase in training costs to their customers does not detract from the policy of charging the more senior students higher fees. This is so, first because the probability of full shifting is low in most cases; second, because even when full shifting occurs, society is no worse off and in some circumstances still stands to make residual gains. Finally the increase of fees for say the last three years of a professional program is least likely to involve a conflict between the public benefits argument for intervention and the inter-student equity argument. Insofar as most professional students are typically of middle income backgrounds there is less likelihood of frustrating a policy of aid to low income groups. Moreover it is arguable that even those candidates to professional courses (such as medical schools) who are from low-income families are not now in a low-income environment. Having reached this stage of education they already have middle income and middle class expectations and aspirations.

THE CONTINGENCY LOAN PRINCIPLE RE-VISITED

On certain assumptions about externalities and labour market imperfections we argued (Ch 5) that a larger slice of tuition costs should be charged him the longer the student is in education. By the same logic convenient ways of privately financing his later education need to be found. This brings us back to the question of loan systems. The feasibility of these seems immediately strengthened because 'senior scholars' are better risks. The income contingent version of loans also seems more appropriate because such groups are above average in their expected future incomes. Yet these groups are serviced least well by the Canada Student Loans Plan; and this is partly because it is means tested and partly because it contains no contingency elements. In Chapter 3 indeed we observed that it was remarkable that after so much agreement among academics, no government-sponsored national contingency loan scheme has yet been launched either in America or Canada.¹ In view of the apparent continued misunderstanding of the contingency principle in student loans, some further elucidation is justified here. On general principles we do not expect to achieve much more than has already been

1. In America there is a large number of economists who now advocate contingency schemes. They include Milton Friedman, Andre Daniere, Robert Hartman, James Tobin, D. Bruce Johnstone, the U.S. Carnegie Commission on Higher Education, S.E. Harris, W. Vickery; in Canada the most notable advocates are David Stager and Gail Cook. Politicians in Britain have shown the greatest resistance to loan schemes of any kind, despite the strong support by academics as Alan Peacock, Jack Wiseman, Alan Prest, Mark Blaug, and Edwin Mishan.

done in two particularly clear and orderly analyses published by Robert Hartman in 1971 and D. Bruce Johnstone published in 1972.² In our exposition however we shall make arguments that are particularly relevant to Ontario. These arguments will be developed further in the last chapter.

Student loan schemes of the conventional fixed schedule variety, already exist in the United States, Canada, Western Germany, the Netherlands, Sweden, Norway, Denmark, Finland and a significant number of underdeveloped countries. Sweden, Norway, and in Canada the province of Alberta, are the only places that rely on loans as the principle source of student finance. The typical kind of loan in these countries is the 'non-contingent' one wherein the borrower contracts for a rate of interest, a repayment period, and an amortization schedule, stipulating each payment over the life of the loan. Periodic payments (e.g. monthly or annually) are usually fixed and at a given rate of interest. Borrowers make identical payments and repay at the same rate of interest if they contract under the same terms. The contingency loan on the other hand (that has so far not been officially adopted) is one wherein a borrower contracts for an 'annual repayment rate that is specified in terms of the percent of income earned in the

2. Robert W. Hartman, Credit for College, New York, 1971; D. Bruce Johnstone, New Patterns for College Lending, New York, 1972.

future. The contingency contract also has an upper limit accumulated payment which protects the higher earner from potentially excessive liability. Such high earners are allowed to exit before the maximum repayment period, but at special 'opt-out' rates that repay their loans at more than cost. In contrast to the fixed schedule loan therefore, the contingency loan gives the borrower some control over the burden of repayment since the actual interest rate, the repayment period, and the total dollars repaid vary in accordance with his income. This principle of repaying according to income has cropped up in the last few years under various terms including; "income contingent", "deferred tuition" (Duke University), "tuition postponement" (Yale), "the Educational Opportunity Bank", (the 1967 Zacharias Report), and the "graduate tax" (Great Britain).

The graduate tax, as the term is used in Britain, best describes the principle, especially for those who are worried that work class children will be deterred from education by any prospect of a debt burden. With a graduate tax there is no burden of debt that must be paid; it was never intended that students should repay a loan as if it were a personal debt. The repayment of tax is only upon a person who graduates, and then only if he earns income at or above a certain level of income. This meets in advance much of the old charge that a loan scheme would impose negative 'dowries' on female graduates contemplating marriage. If there is no

income there is no tax (although it is true there are some special efficiency problems with the inclusion of women in loan schemes). But because the contingency loan scheme calls for payments like a special surtax on graduates, some will be prompted to reply that graduates are already taxed progressively in consequence of their relatively higher incomes; this should be sufficient for them eventually to repay the state for the cost of their education. This is a popular fallacy; for the same statement would be equally valid if made about physical capital (i.e. machines, factory buildings, etc.) instead of human capital. Few people however argue that public funds should therefore be used to subsidize the capital investment of automobile and oil corporations. As Blaug points out, there is a confusion here of the motives behind the progressive income tax with the reasons for financing higher education one way rather than another. If we accept the argument that graduates already pay income tax sufficient to reimburse their educational subsidies we ought, Blaug argues, to "advocate the distribution of free annuities to all 18 year olds on the grounds that part of the resulting annual payments will after all be recovered eventually via income taxation".³

Income contingency lending does not necessarily imply that the student will pay for the full cost of his

3. Mark Blaug, An Introduction to the Economics of Education, 1970 p. 306.

education. It is directed at that part of the cost of education that is not subsidized. If subsidies are required to generate public benefits, the total cost of education will be shared between student and government. Loans relate exclusively to the student's share. Often it is suggested that a good rule is to concentrate the subsidy on the non tuition costs, such as costs of overheads, and that the tuition costs are the appropriate ones for student contributions.⁴ Again this does not necessarily mean that the student should pay 100 percent of tuition, but that the bulk of it should be covered by him. Suppose students are already paying say 50 percent of tuition and an income contingency loan plan is then introduced to enable them to do so with more convenience. Machinery will then be established which will make it easier for the student to face increased tuition in the future, which is the common expectation in view of increasing costs and taxpayer resistance. The establishment of contingency lending is, in other words, an especially wise advance precaution. One of the reasons why the present system of loans will not meet such a precaution is that they are rationed to people who can demonstrate need. Unlike a contingency system the present Canada Student Loans Plan is likely to act as a check to future expansion of higher education.

Another prominent reason why the present system is

4. In Canada this is the approximate rule suggested by the Report of Royal Commission on Education, Public Services, and Provincial-Municipal Relations of Nova Scotia, published September 1974. It was also the direction of argument by the Ontario Commission on Post-Secondary Education's (the Wright Commission's) Report in 1972.

unsuitable is that it has very short repayment period. Advocates of contingency lending usually have in mind periods of 20 to 40 years repayment. This is considerably different from the 10 year repayment period that the Canada Student Loans Plan requires. If, because of increasing costs in the future, greater reliance will have to be made on student contributions, arrangements should be made whereby students are more willing to assume larger debts. To do this the debts should be made more "manageable". Manageability has to do with length of repayment the size of the repayment tax, the degree to which this tax is graduated as income increases, and the provisions for opting out. The evidence is (see chapters 7 & 8) that students would be more willing to assume larger debt if there were longer repayment periods.

From normative principles we can assume that the individual wishes to minimize his subjective costs of borrowing. He faces a probability distribution of future incomes and future normal consumptions. The subjective loss of his loan repayment must be related to his position on the future income and consumption schedule. If we assume diminishing utility of income; a forced reduction of \$500 in one's consumption causes a bigger loss to the individual if his income is \$5000 than if it were \$10,000. Such reasoning would at first sight lead one to expect that the student borrower would wish to postpone repayments of his loan so that the biggest repayments occur when his expected income

is largest, say 30 to 40 years after college. Such repayment periods indeed were typically intended in the first contingency schemes that were proposed in the 1950's. But is the jump from 10 years to 40 years repayment going from one extreme to another? Some writers now believe that it is. One reason given is that from the lenders point of view the longer repayment period slows down the turnover of their funds. This problem however can to some extent be eased when wider access to capital markets is achieved. This is now being attempted in America with the establishment of the Student Loan Marketing Association (see appendix 1).

Another problem with extended repayment is the possibility of a positive correlation between probability of default and size of total repayment both of which might increase with time.⁵ Such expected increases in the costs of bad debt however are usually associated with the present setting where the banks act as the collectors. In our report a great emphasis is placed on the need to use the income tax authorities. When this is done, for reasons that were outlined in Chapter II, we can expect that default rates will dramatically decline; the correlation between length of the repayment period may persist but its magnitude should be negligible. What small amount of default costs that might remain could practically be charged to the whole borrowing cohort.

5. This is one of the findings in: "Participation in the Tuition Postponement Option and Implications for Income Contingent Loans", David K. Storrs, Principal Investigator, Yale University Plan, June 1974.

There is another reason why repayment periods of over 30 years are likely to be too long. Professor Andre Daniere argues (in an unpublished manuscript, 1974) that individuals do not relate satisfaction to future consumption levels in the same manner irrespective of whether they are young bachelors, middle aged family heads, or aging pensioners. "A similar cut from the same consumption level at age 20 represents a lesser sacrifice than at age 40, when consumption dollars must respond to such obligations as are created by the consumption of one's family, the maintenance of one's social status and the indulgence of one's acquired tastes."⁶ For this reason the same relative consumption cut, say one-tenth of income, can generate a greater subjective cost at age 40 than a larger relative cut, say one-eighth of income, at age 20. The reason is that annual utility functions shift over time and the utility of a dollar of income at age 40 can indeed be larger than at age 20.

Suppose that college students make their decisions with respect to two periods, the first covering the first 20 years following graduation and the second covering the next 20. Suppose also that the students only other major borrowing commitment relates to house mortgages that generate annual expenses equal to the value of housing services received. The student will have the bigger incentive to extend repayments of his educational loan over the two periods the larger the loan, the higher the expected income in period II relative

6. Andre Daniere, "The Design of Student Loan Systems" unpublished monograph 1974.

to that in period I, and the lower the interest rate. The loan size variable is particularly relevant to the Canadian situation. As already stressed, if students are to be expected to take out larger loans in future years (because of fixed government budget ceilings), there will be more incentive for them to do so if they can spread their repayments over a longer period. But whether this period should be beyond 20 years (i.e. whether repayments should extend into period II) needs more precise reasoning. All that can be said so far is that if a 10 year repayment period was originally regarded as optimal in a Canada Student Loan Plan then, other things equal, some extension beyond 10 years will be required if students take out larger loans in future.

Whether the individual would wish to make repayments in the second period (in the second 20 years after graduation) can be roughly indicated by observing their borrowing/saving behaviour in the general field of consumption. If they were compelled to repay their educational loan within the first period and they then began to borrow to increase their consumption in that period, this would suggest that the educational loan repayment period should optimally be extended over 20 years. This would be especially so if the government lending system could improve on the private capital market by lowering transaction costs.

The second variable, the expected size of income in period II compared with that in period I, seems to have been one of the main considerations in leading the early

advocates of loan systems into recommending repayment periods up to 40 years. For, in the United States, average money income in the second period can be expected to be twice or more than of the first period. The third variable, the interest rate, would in present circumstances appear to be a potential counter-influence. Whilst at present the banks are collecting from student lenders interest repayments that are close to bond rates, this situation cannot be expected to last much longer. When higher and more realistic interest rates are charged (i.e. higher than the present rate of about 7.9 percent) the charges are likely to become high enough to overcome the effect of larger incomes in the second period. Tipping the balance in favour of the same conclusion is the available evidence at least in America relating to borrowing/saving behaviour for consumption. Individuals in U.S. households in all income brackets above the median begin to save very early (no later than age 30). It is true that this information refers generally to households that are free of college loans. Nevertheless a dominant general preference for consumption in the second (later) period is surely significant; and the educational loans would have to rise to a very considerable extent to reverse this trend.⁷

7. Lester C. Thurow has recently argued that actual consumption data are misleading, and that very substantial dis-saving would occur in the younger age group in the absence of institutional constraints on lending. His argument however prompted rebuttal by critics who argued cogently that there is in fact a close correspondence between actual and "desired" savings at all ages. Lester C. Thurow; "The Optimum Lifetime Distribution of Consumption Expenditures". American Economic Review, Vol. 59, (footnote 7 continued on next page)

Relying on the assumption that the total utility of income increases at a slower rate than its size (i.e. diminishing marginal utility of income), Daniere has computed relative satisfactions attained under different repayment schedules. The subjective cost of repayments in any year of the borrower's life is expressed by reference to (1) his expected normal consumption, or in other words, his expected consumption in the absence of loan obligation; (2) a function linking subjective costs to a relative consumption cut. Using an interest rate of 6 percent Daniere found the minimum subjective costs occur around a 20 year length of repayments for all loan levels in the range. On this reasoning, the most recently implemented or discussed plans in America, that typically suggest a 30 year repayment, are still too 'generous'. Duke University for instance stipulates 30 years and Yale up to 35 years. The plan proposed by the Carnegie Commission in 1970, and the "Ohio Plan" proposed in 1971 by Governor John J. Gilligan, also incorporate a 30 year repayment. At the same time, Daniere's reasoning clearly demonstrates that a 10 year repayment period (such as that involved in the Canada Student Loan Plan) is too short.

Taking all the arguments into account and giving due consideration to the probability that students will

7. (footnote 7 continued)

June, 1969.

Brian Mostley and Samuel A. Morley; "The Optimum Distribution of Consumption Expenditures; Comment," A.E.R. Vol. 60, September 1970.

have to finance much more of their education in future, we propose in this report that, whether a contingency plan be adopted or not, the Ontario Government should urge that the typical repayment period in Canada be immediately extended from the present ten years to 15 years; and that further consideration be given to the possibility of still further extensions in the near future. This is a fairly modest proposal but one that fits in with our requirement of 'gradualism' in the reform of educational finance.

Two further comments are required in defence of this proposal. We must meet the argument against extended repayment recently put forward by Robert Hartman (op. cit) that beneficiaries in student loan programs usually enjoy an interest subsidy and this is not available to "ordinary citizens" at a similar stage of life. An extension of the repayment period would, therefore, aggravate the inequity. Hartman's 'inequity', however, is more relevant the more that the interest subsidy is paid for by non-users. We are assuming that interest rates on educational loans will soon be reaching more 'realistic' levels wherein the taxpayer will not be called upon to provide assistance. Moreover, we are envisaging that the 'reformed' loan system, for reasons given in Ch 4, implies an increase in the share of education costs born by the student. When this happens, the inequity against non-users will be significantly reduced even if subsidy elements remain in the interest payments in the transition; for these subsidies will be replacing

much bigger ones (grants).

The second comment relates to bank liquidity. Hartman argues that a longer repayment term would make student loans appear less liquid to banks. One answer here is to seek wider access to capital markets as is now being attempted in America through the Student Loan Marketing Association (see chapter I and appendix I). The central point is that it is governments, not banks, who are extending their long term debt. If governments really can enjoy economies in operating on simulating loan systems, then as long as these economies can justify extended repayment periods, institutional arrangements should be made to achieve the desired ends.

By simple extension of the previous logic concerning the minimization of subjective cost to the student borrower, there is an additional need for a move towards a graduated repayment schedule. If a student is making quarterly payments these can be charged at an increasing rate to reflect increasing earnings. In this way the payment burden can remain near a constant percent of income for the average borrower. This principle can be incorporated in the present day fixed schedule loan plan like that in Canada. When it is incorporated the plan begins to take on aspects of contingency loan schemes. The Harvard Plan is one such 'mixture'. It operates within the American Federal Guaranteed Loan Program and arranges that quarterly payments increase at a rate of approximately 8

percent a year. Such a rate is assumed to be roughly equal to the expected rate of annual increase in earnings of the average borrower. This special provision in the Harvard Plan is quite consistent with the State and Federal regulations in America. One important likely consequence of it is that by making repayment 'more comfortable', i.e., reducing the subjective cost to the borrower, incentives to default are probably reduced. For all these reasons we shall recommend a similar change in the Canada Student Loan Plan, or in the Ontario version of it, so that repayment in the early years are reduced and those in later years increased.

A fully fledged income contingent scheme that intends to be fully self supporting should aim to have a repayment rate (at a percentage of income) at such a level that will bring a rate of return to the Bank's fund that just covers all the costs of borrowing. The higher the repayment rate the higher the rate of return to the lender. The repayment rate however is not the only variable that determines the solvency of the scheme. Two other important variables are; (a) the length of the repayment period (b) the upper limit on liability. The longer the repayment period the longer the time over which borrowers pay and the higher the rate of return to the lender. The upper limit on liability is required to prevent the 'exploitation' of exceptionally high income earners. In the absence of such provision high-prospect students will shy away from parti-

cipation in a system that could burden them excessively in the future - in which case the contingency scheme could be self-destructive. The upper limit on liability sets the point beyond which the most successful borrowers need no longer repay. The liability limit usually takes the form of special exit rules. One of these for instance could provide that a borrower can leave the system provided that all money borrowed had been repaid at a special exit rate of interest. This interest rate will be higher than the target rate of return for the fund as a whole. This differential is required to make up for "drop-out" losses to the fund from less successful borrowers. An alternative rule is one that calculates the liability by reference to a virtual loan that is larger than the actual one.

If we know the projected income of borrowers and the target rate of return to the fund we can theoretically "solve" the system with various combinations of repayment rates, maximum repayment periods, and upper limit on liability. The solution can be arrived at by trial and error. Thus if we have a repayment rate of 0.8 percent of income per \$1000 borrowed, a repayment period up to 25 years at maximum, an upper limit on liability of 125 percent of principle, and 7½ percent rate of interest, this will yield some expected rate of return. Suppose this comes to 7 percent but that 8 percent is required to cover total costs. One way would be to increase the upper limit on liability. This could be done by raising the upper limit

for example to 150 percent of principle. Another way, and one which virtually comes to the same thing, would be to charge a special exit rate of interest of say 8.5 percent to those wishing to opt out before 25 years had expired. Both these measures would generate additional surpluses from the higher earners without altering the repayments of the other borrowers.

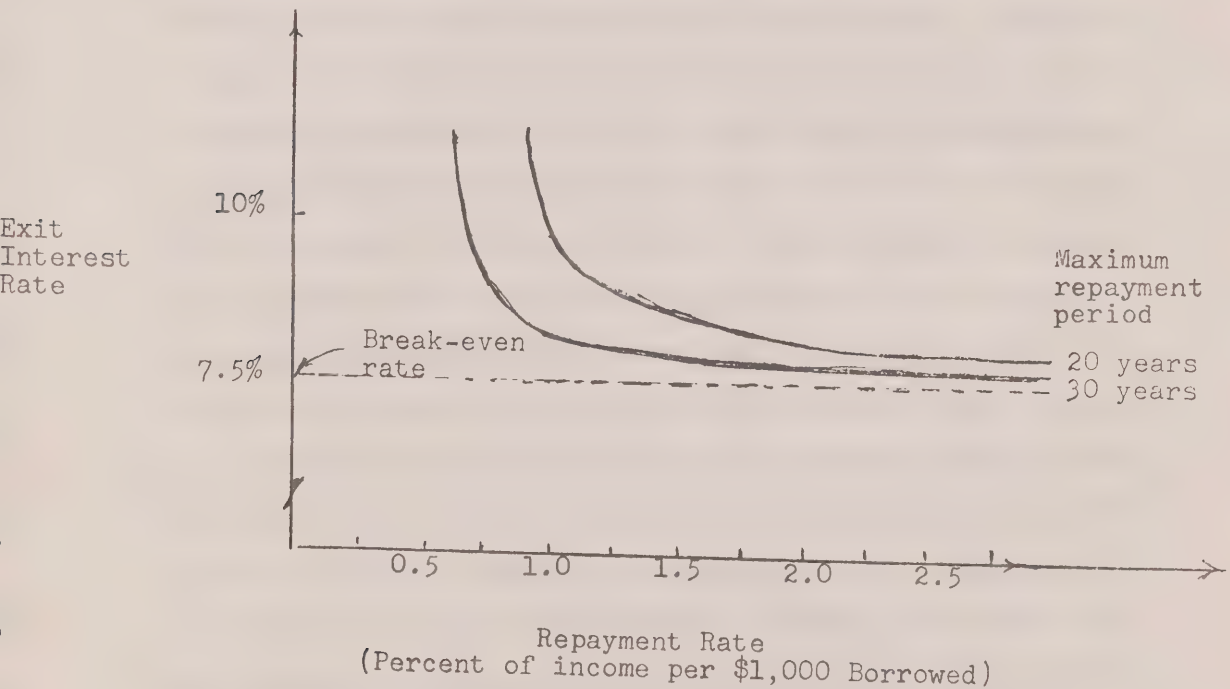
Another way of making the system solvent would be to concentrate upon the repayment rate. If the repayment rate is increased, all those who previously did not opt out before 25 years would make additional returns and the general rate of return of the contingency system as a whole would increase.

A final method is to raise the maximum repayment period above 25 years. Increased payments will again come from the lower and middle earning borrowers who previously did not opt out before the maximum repayment period. These borrowers would now make repayment for additional years.

Once the returns to the system are sufficient to yield a break-even rate of interest the system is in a state of theoretical solvency, or equilibrium. Marginal adjustments can now be made in one variable to compensate for opposite adjustments in one of the other variables so that the break-even rate of return is still maintained. For instance the maximum repayment period could be shortened provided the repayment rate was suitably increased. As another example the repayment rate could be reduced provided

that the exit interest rate was sufficiently increased to make a sufficient offset. Such combinations of loan terms that provide an equal break-even rate of return are illustrated in Figure I. The higher "isorate curve" shows a combination with a maximum repayment period of 20 years. This combination yields a break-even rate of 7.5 percent on all points on the isorate curve. When the repayment rate is 1 percent the exit interest rate is 9 percent. If the interest rate is reduced to 8 percent the repayment rate has to increase to about 1.5 percent.

FIGURE 5.1 Break-even combinations of loan terms



Source: Stephen P. Dresch and Robert D. Goldberg, "Variable Term Loans for Higher Education: Analytics and Empirics," The Annals of Economic and Social Measurement, 1 (January 1972), 59 - 92, at p. 77.

The lower indifference curve represents a combination that includes a maximum repayment period of 30 years. It will be seen that moving from the higher to the lower curve generally requires a decrease in both the repayment rate and the upper limit condition.

The above model and accompanying reasoning are illustrative of the trade-offs that are involved in the complete contingency loan system. It should not be imagined however that simulation models can generate precise magnitudes of the variables involved, or indeed that they can include or cope with all of them. A well-known model in Canada,⁸ published in 1969, cautioned "the results obtained, however, are only as reliable as the original projections of enrolment and income used as a base. The projections are based on crude assumptions about future enrollment and the relation between present income by age and expected incomes of cohorts initial after leaving institutions of post-secondary education." Moreover, "illustrative sets of results are presented with the cautionary note that they are estimates possibly carrying a significant margin of error."⁹ Experience has shown the wisdom of such cautionary observations. Actual enrolment figures (especially part time) have subsequently indicated the 1969 projections to

8. Gail Cook and David Stager, Student Financial Assistance Programs, A Report to the Ontario Committee on Student Awards, Toronto: University of Toronto Institute for the Quantitative Analysis of Social and Public Policy, 1969.

9. Op. cit page 232.

have been by and large "off course". As another example, interest rates have risen considerably to a degree that was unimaginable five years ago.

There will be no attempt in the present report to attempt a new and more ambitious simulation model based on revised projections. We believe that for immediate policy purposes this is starting at the wrong end. A more practical approach needs consideration of prior moves towards the complete contingency system. These 'marginal' moves call especially for a much clearer consideration of institutional changes to provide the stage for future developments. The exclusively quantitative model appears to assume away many of the problems connected with these preparatory stages. We have argued already that the problem of collection, and which institutions that should be responsible for it, is one of the key issues. Again, whilst typical simulation models present combinations of a repayment rate, repayment periods, and exit rates of interest that will produce the same "break-even" rate of return to the contingency fund, they give no help in identifying the correct break-even return. Insofar as the break-even rate that is selected is lower than the "true" one, concealed subsidies will creep into the scheme. The appropriate break-even rate of return is that which just covers the real costs of student lending. As one authority has recently conceded, however, "The true costs of student lending have never been known with any great precision, and it may be

futile to attempt to put an income contingent plan on any "truly" unsubsidized basis when it is doubtful whether any general plan for student lending has ever existed without some direct or indirect subsidy.¹⁰ Our concern, therefore, is to throw more light upon the actual costs of student lending.

One of the aspects of these costs that previously was not on this matter given adequate attention was the rate of default. The American experience especially is one of considerable surprise if not shock. In the first eleven months of 1974 the U.S. Government lost \$112 million out of the \$1,527 million of educational loans that were due to be repaid. This is a default rate of 7.2 percent in value terms. It compares with a 2.5 percent loss rate for finance company loans which is regarded by some as the most nearly comparable category. With this information the first approximation to the true break-even rate of return for a contingency plan is obtained by adding the government prime rate of interest (around 8 percent) to the 7.2 percent default losses. This gives a break-even rate of about 15 percent. Alternatively the break-even rate can be obtained from the average going rate of return to finance company loans plus the differential default costs (student loans showing nearly 5 percent more for defaults.) Again a rate of return of at least 15 percent would seem to be a realistic estimate.¹¹

10. Bruce Johnstone op. cit. page 130.

11. It should be stressed again that 15 per cent is a first approximation. Insofar as governments begin to exploit their true comparative cost advantages defaults can fall. Break even rates should then be well below 15 per cent.

The reported default rates for 1974 are taken from Business Week, 31 August, 1974.

Data on the Canadian default rates will be more fully analysed in Chapter 8 . Indeed such data will be used to test our hypothesis that default rates will be "high" and growing when loan service charges and repayments are collected by means other than the income tax machinery. We can say already however that the indications show Canada to be not far behind the American experience. Certainly we can no longer share the confidence of earlier Canadian investigators that "Setting a target rate of return to the fund slightly higher than the government borrowing rate would permit the fund to break-even (for a cohort) and administrative expenses to be covered."¹² Obviously the target rate of return on the present experience has to be set much higher than the government borrowing rate.

In drawing attention to such high break-even rates that are required we shall of course invite questions as to whether these rates need be so high. These will in turn provoke further questions about the appropriateness of present institutions. We welcome such questions. For, to repeat, the choice of institutions is itself an important economic question that should not be neglected especially when contingency schemes are about to be introduced. The more that a contingency scheme begins to reveal an 'accidental' or unexpected need for subsidies to make it viable (because of high defaults), the more self-defeating it becomes. Subsidies have to be paid out of general revenue;

12. Cook and Stager op. cit.

yet the rationale of the contingency scheme is to relieve the burdens on this traditional source of finance.

External subsidization appears unavoidable in an all inclusive contingency scheme for other reasons. Such schemes embrace the whole student group whose income prospects are heterogeneous. Yet if the high income prospects can separate themselves into groups with similar expected income profile and similar probability distribution of income stream levels they would stand to get greatly improved loan terms. With separate loan schemes such as this, individual sharing common income prospects would attempt to join groups with higher prospects than their own, but exclude individuals with lesser prospects than their own. In the end each group would eventually consist of individuals sharing the same prospects.¹³ Suppose that the average group in the student population can fully repay loans under a 20 year fixed term mutualization scheme at a rate of 1 percent of income per thousand dollar of loan. A group with twice their prospects could repay under a similar scheme at a rate of only 0.5 percent of income per dollar of loan. A group with only half the prospects of the average group faces a rate of 2 percent of income per dollar of loan. Since the merger of high and low prospect "groups" in a common loan system calls for a repayment rate somewhere between 2 percent and $\frac{1}{2}$ percent it is obviously to the benefit of low-prospect borrowers to urge such a system since they will be subsidized. Similarly it

¹³. Andre Daniere op. cit. page 39.

is in the interest of high-prospect borrowers to resist it. If the private sector is unable to engage in contingency lending the government system of lending that emerges will be a monopoly capable of setting its own terms. The government can then decide whether or not to segregate borrowers by income prospects. Where it finds segregation undesirable or difficult it can confine its scheme to a single contingent loan with a uniform repayment rate. Such a uniform loan system can be regarded as a discriminatory income redistribution among clients of the system.¹⁴ It may be argued that this transfer can be fitted in with general notions of equity. This however raises the question whether income-redistribution is not best fulfilled through direct, explicit income transfers. When this more conventional and traditional method of income distribution is used, we can search for a structure of contingent lending under which optimum degrees of segregation by income prospects are achieved.

The attempt to establish a single contingent loan system with uniform repayment rate still faces the difficulty that high income prospects will refuse to join it. If there is a potential for a private system of contingency lending for such groups exclusively, the most efficient government policy may be to encourage their development. The next chapter contains descriptions and critical analyses of such 'local' (or self-selecting) systems in America and Canada.

14. Danieré, page 40.

Chapter 7'LOCAL' LOAN SCHEMES AND PROPOSALS:
A COMPARATIVE STUDY

This chapter critically assesses selected recent experiences and arguments relating to education loans at the 'local' level. To a large extent, it continues the discussion from the perspective of the contingency principle just examined. The 'local' schemes discussed here are those of Yale, Duke, York (Toronto) Universities. Arguments on loans in Nova Scotia in 1974 are contained in Appendix 2.

THE YALE TUITION POSTPONEMENT PLAN 1974-75

The Yale plan started in September 1971. It was the first contingent loan plan ever to be implemented in the United States, and indeed in the world. All students of educational finance in Canada, America and elsewhere must, therefore, watch with special interest the experiences and outcomes of such a unique innovation. Our discussion is based on information received up to October 1974.¹

The fundamental characteristics of income contingency is the relating of the student's annual payment to his annual income. Since 1971 the Yale Tuition Postponement Plan (TPO), as it is called, has allowed students to defer payments for tuition, room, and board fees in return for an obligation to repay Yale 0.4 percent of their annual adjusted gross income per \$1000 deferred over a term not to exceed 35 years. The

1. We have benefitted from conversation and correspondence with the Acting Director of the Yale Plan, William J. Ickinger.

borrowers obligation terminates when he has reached the maximum term of 35 years. It can terminate earlier if he has repaid at least his principle and his cohort has repaid its total debt at the break-even rate of return. An individual borrower can also withdraw if his accumulated repayments equal 150 percent of his loan plus a break-even finance charge based on Yale's borrowing and administration costs. The finance charge is not to exceed the lesser of (1) one percent above the average rate of interest which Yale expects to pay, or at which it expects interest to accrue on its borrowing for the six months following each June 30, and December 31; or (2) the maximum interest rate permissible under Connecticut loan laws. Student participants are in effect receiving some subsidy element from the private funds of Yale University since the university borrows to provide loan funds only when it can pledge liquid assets as 100 percent collateral. In the year 1972 to 1973 students were allowed to defer from \$300 to \$1,150 on payment obligations.

The Yale Plan seems to have shown at least the legal and technical feasibility of contingent lending. The I.R.S. has given Yale a very favourable Tax Ruling which says that the TPO participant is entitled to deduct his entire annual payment as interest on his Federal income tax return once he has repaid his principal and insurance premiums. Since his payments are first allocated to principal and then to insurance, the participant will be able to take advantage

of these tax deductions in his high-income years when the deductions are most advantageous to him. The effect of this tax treatment is to reduce dramatically the cost of TPO to all participants, especially those with high incomes. The I.R.S. also allows participants to authorize the Yale Plan administrators (at a fee of \$2.) to consult their Federal income tax returns. It will be recalled from our discussion of the theory of 'capital market imperfections' that the presence or absence of this knowledge of true income plays a crucial part in the feasibility of private contingency schemes.

The plan has demonstrated the acceptability of such a scheme to a substantial portion of the undergraduate body. Almost a quarter of the college student body signed up for the plan in the fall of 1971. As Table I illustrates, this proportion has been steadily rising ever since. It shows also that women are not far behind men in participation. Students could still of course borrow from banks or find other ways to finance the increases in their fees; but the fact that so many accepted the Yale income contingent plan seems to demonstrate a strong student opinion that it is preferable to a variety of other means.

To gauge the relative attractiveness of the contingent loan with alternatives, the principal investigator of the Yale scheme asked participants (through a questionnaire) to indicate if each of six financing alternatives were available to them, in 1972-73, and their preference for

TABLE I

YALE COLLEGE
TUITION POSTPONEMENT OPTION
RATE OF PARTICIPATION IN PERCENT

	<u>1971/72</u>	<u>1972/73</u>	<u>1973/74</u>
Men	26	33	37
Women	20	26	30
Total	25	32	35
Receiving Financial Aid from Yale	39	55	58
No Financial Aid	12	12	21
Total	25	32	35

that alternative if it were made available.² The alternatives were: additional summer employment, additional school year employment, living on less money, state or bank conventional loan, borrowing from family or friends, and Yale TPO loans. The relative preferences are shown in Table 2, with the number of respondents mentioning the option and the average ranking of it. It is interesting that summer employment was the top favourite source of additional financing - if it was made available. Of course, the type of job the student has in mind is not always available. If he is unskilled he will often find employers unwilling to take him on at the legal minimum wage. In any case summer employment will usually make intrusions on study to the extent sometimes that the student has to take another year at college. This will also reduce by one year the receipt of professional income. Summer unskilled employment income is not likely to compensate for this and so is usually a bad investment.

The most attractive borrowing alternative in Table 2 is the TPO. It ranked higher than borrowing from friends or from a government loan system like the Guaranteed Student Loan Plan (which is similar to the Canada Student Loan Plan). It used to be thought that, caught between rising fees and constant university and government aid, students would be compelled to take out TPO loans. Such

2. "Participation in The Tuition Postponement Option"
David K. Storrs, Principal Investigator, Yale University,
June 1974. This research was financed by the Department
of Health, Education and Welfare. It will be referred
to hereafter as: David Storrs.

PREFERENCE FOR ADDITIONAL FINANCING
BY CATEGORY

Preference	Summer Employment	School year Employment	Living more Cheaply	Conventional Loan	Borrow from family or friends	Borrow more TPO
1	62	20	57	10	13	37
2	46	36	39	18	27	33
3	33	37	34	29	30	33
4	16	40	31	30	35	31
5	9	25	16	45	31	32
6	4	20	13	43	39	11
	—	—	—	—	—	—
Average Rank	2.3	3.4	2.7	4.2	3.9	3.1
# Responses	170	178	190	175	175	176

Source: David Storrs, (1974), Table 7.

forced participation would reveal nothing about the relative attractiveness of income-contingent loans. The questionnaires, however, showed that only a small minority of participants believed they had no alternative to TPO. About three out of four students believed there were four financing alternatives they could use.

Some critics have alleged that the Yale Plan is hardly likely to attract the few really wealthy students. This is because the opt-out condition that repayments must equal 150 percent of the loan plus a break-even finance charge is too much of a deterrent to the very rich class. This has prompted the view that "the unfortunate thing about Yale's program is that Yale is not the government and cannot compel participation".³ Obviously if Yale could compel participation those members of the student class who eventually earn the lowest incomes would be better off because their repayment rates could be reduced. The tendency of the very richest to avoid participation has come to be called the 'problem' of adverse selection. The latest attempted measure of it by David Storr is somewhat ambiguous. On his questionnaire findings Storr was confident that there was "no evidence to support an adverse selection theory".⁴ He based this finding on responses to the question to each student whether he felt he would earn more during his career

3. Robert W. Hartman, "Equity Implications of State Tuition Policy and Student Loans", *Journal of Political Economy*, June 1972, p. 167.

4. David Storr (1974) p. 11.

than an "average Yale graduate". Eleven percent of the respondents indicated they didn't know. Of the remaining 89%, 68% felt they would earn less than the average Yale graduate while only 32% felt they would earn more. The respondents included participants and non-participants in the Yale TPO. Among the class of students receiving aid from Yale there was no significant difference in income expectations between participants and non-participants in TPO. In the group not receiving financial aid, average income expectation was significantly higher; but there was no significant difference in income expectations between TPO participants and non-participants.

When Storr's figures are rearranged according to the percentage of below and above average income expectations of TPO participants and non-participants (i.e. students not broken down according to aid receivers and non-receivers), participants are over three times as likely to expect below average income, while non-participants are less than two times as likely. When we further rearrange Storr's figures, we find that men's absolute figures for income expectations in their first year of work compared with their tenth year appear as in Table 3. To obtain a clearer picture of course we would require further knowledge of other years and some idea of the variance. As they stand, they suggest some mildly 'adverse selection'.

From the lender's point of view, subjective expectations of the student are of dubious value. What is

TABLE 3INCOME EXPECTATIONS OF MEN

<u>Men</u>	<u>1st Year</u>	<u>10th Year</u>
	\$	\$
Participants (N = 75)	12,680	28,252
Non-Participants (N = 56)	11,591	30,029

Source: David Storrs, (1974), page 28.

The figures for non-participants excludes three students who reported \$250,000 or over in expected income.

more relevant is an objective prediction of future income based on such variables as academic attainment, I.Q., career plans, and field of study. Lower subjective expectations of students whose parents have low income may simply reflect a higher rate of risk aversion associated with the origin population.

Finally, suppose that "adverse selection" was unambiguously demonstrated by the figures. This does not prove that the contingency principle and the TPO is of no practical use. As we argued in the last chapter, the contingency principle clearly predicts that 'self-selection' will occur; that is high income prospects have a 'natural' incentive to separate themselves into their own fairly homogeneous groups. Yale students as a whole can be expected to earn future incomes that are above the average for the post-secondary group as a whole. It may be true that a few very wealthy families have no interest in joining the Yale scheme; but this element of 'adverse selection' does not mean that the scheme is 'adverse' to the remaining participants. Different groups in society require different elements and degrees of insurance; and insurance companies respond with insurance prices that cover individual group risks; but such differences do not argue that insurance is of no positive value.

Whilst private contingency systems are not in principle likely to stand or fall on the issue of 'adverse selection' there are two other variables that are much more critical. The first is the break-even interest charge, the

second is the rate of default.

The Interest Rate 'Crisis' and the Yale Plan 1974-75

Consider a private and a public loan plan, each initially providing loans at interest rates that are equally subsidized to the extent of 1 percent from private and public fund respectively. Assume that market interest rates are 8 percent. Suppose that due to 'severe' subsequent inflation the market rate doubles. If the private loan system has a fixed amount of private funds and the student demand for its loans increases, it will be obliged to raise its interest rates. If the public loan plan fails to increase its loan rate or fails to match the private rate increase, other things equal, there will be a strong migration from private to public lending agencies.

Something like this has happened with the Yale Plan over the last two years. Its rules incorporate a 'finance charge' to students which is a floating interest rate. This is tied to Yale's own cost of borrowing and is designed to protect Yale against the risk of borrowing short to lend long. Since its costs of borrowing have substantially increased, the interest rate to students has become less favourable than that of the Federally Insured Student Loan (FISL) such as the Guaranteed Student Loan Plan (GSLP) which has maintained its interest charge at 7 percent. The refusal of the government to raise the student loan interest charge means that extra (concealed)

public subsidies are being made to students; for government and taxpayer opportunity costs of lending have increased.

The differential between public and private educational loan rates can become quite large before substantial migration takes place. This is because the Yale scheme has advantages not shared by the GSLP. The advantage is the insurance element of 'contingency' plus longer term repayment and the consequential low yearly payment. It is significant that the survey by David Storr revealed that TPO users ranked a short term repayment as distinctly unattractive. When graduate and professional students were compared with undergraduates, they have an even higher ranking for "Low Yearly Payments". This no doubt is due to the greater debt outstanding among the postgraduates.

Important as the long term repayment period is, it begins to be offset at some interest rate differential between public and private schemes. There are now signs that the 'boundary' is being reached. For the 1974-75 academic year, Yale has joined its TPO with the Federally Insured Student Loan (FISL) program. The combined FISL/TPO allows students to take advantage of the lower Federal rate of interest. Any undergraduate eligible for a FISL loan may borrow up to \$1,900. Since the only part of the loan that is means tested is the privilege of tax forgiveness during attendance at college, the public scheme can be used by students of all income origins. Yale is now encouraging its students to take out FISL loans. During the student's

first year at Yale, any or all FISL loans taken through Yale during or after 1974-75 may be converted to TPO. Loans not converted to TPO remain conventional FISL loans. TPO has, therefore, now become a "two paper" plan. When the student signs the second contract, he agrees to make TPO payments to the TPO office and the latter, in turn, will then make conventional payments on the FISL loans.

Default Rates Among Private Plans

We 'predicted' in Chapter 2 that, where the machinery of income tax is not used for collection, default rates will be 'high' and growing in public and private educational loan schemes. We have yet to examine the general evidence in more detail; we shall do so in the next chapter. How, meanwhile, has the Yale experiment fared in this respect? The TPO scheme, as we have seen, has been developed with considerable co-operation with the I.R.S. - not least in the arrangement whereby the Yale office can be authorized by the student borrower to consult his Federal income tax file to check his reported income. We argued that correct information on this was crucial to any contingency scheme. For this reason one would expect the potential for defaults to be reduced significantly. We emphasized also, however, that the use of the I.R.S. for collection purposes was even more crucial. Since neither the FISL nor the TPO have agreements with the I.R.S. on this score, our prediction remains that defaults will still be substantial. After

private enquiry, we have indeed found that defaults at Yale are significant and are the subject for present serious investigation.⁵

Of all the variables affecting contingency loans therefore it seems to us that the high default rate is still likely to be the most dangerous 'Achilles heel'. The policy implications of this danger, for the present public as well as private schemes, will be explored in our final chapter.

THE DUKE UNIVERSITY PLAN

On this plan we need say very little, having explained the Yale TPO in detail. The Duke Plan is more limited in scope than the Yale plan for the average student. Undergraduates are eligible to "defer" from \$500 to \$1000 worth of tuition in return for an obligation to repay 0.36 percent of their incomes; the borrower's obligation terminates whenever his accumulated repayments have discharged his debt at an "exit" interest rate of 8 percent. Otherwise it terminates when he has repaid for 30 years.

One feature of the Duke Plan which is of a special interest here is that it offers separate plans to the schools of law, business, and medicine. Each school offers terms based on the expected incomes of its graduates. Because medical graduates enjoy the highest expected incomes, the medical school is able to offer the most attractive com-

5. We understand the 'unofficial' gross figure of the proportion of money not paid over that due to be repaid in a given year is 10 percent. This includes short term defaults which are explained by 'first time' repayers who need reminding of the due procedure and dates, etc.

bination of maximum terms, repayment rates, and exit interest rates. As we saw earlier this is not a phenomenon of 'adverse' selection so much as 'optimum' selection. The loan plans in the graduate and professional school have a bigger variety than those offered to the average student in the college. Students in law for instance can choose between maximum repayment periods from 5 to 20 years with repayment rates from 1.5 percent of income per \$1000 borrowed to 0.40 percent of income.

THE YORK (TORONTO) M.B.A. PLAN

Beginning in the school year 1968-69, the Toronto Dominion Bank's branch on York University campus has provided loans to Business Administration students. Quite distinct from any government sponsored schemes, the plan was worked out solely between the bank and the Faculty of Administrative Studies at York University.

Specifically, the loans are restricted to students enrolled in the second year of the M.B.A. program. Two thousand dollars is the maximum loan for single students or three thousand dollars for married students. In the latter case, the spouse is a co-signer. Generally, the loans tend to be around one thousand dollars. Like the Yale TPO, the York plan carries life insurance. The borrower pays the monthly interest while still in the M.B.A. program. Repayments begin six months after graduating or leaving the program. Total repayment must be made within four and a half years.

The interest rate is calculated as the prime rate plus onehalf percent.

The University provides a partial guarantee on the loans as well as handling much of the preliminary administration. A student interested in obtaining one of these loans first approaches the Faculty of Administrative Studies where he or she is screened and is then referred to the Bank. At this point, complete control of the financial activities is transferred to the Bank. Since the student has already been carefully screened by the University, the Bank merely assesses the following requirements: Three years Canadian residency, approximately \$750 of cash assets held by the student, a good credit rating and no excessive outside debts. Once the loan has been granted, the administration of the plan follows the course of any other bank loan.

As regards the partial guarantee, this is currently under re-negotiation as it has been found to be unsatisfactory. At present the school carries the burden of legal fees and unpaid interest as well as a percentage of the principle. It is probable that the scheme would be much improved if it were 'Bank-wide' rather than just restricted to one branch. The administration could then be transferred from Branch to Branch as the student himself moves around. Moreover it would probably be better for one financial 'sponsor' to deal directly with the students rather than have to go through an intermediary.

Not surprisingly the most important present requirement is an increased interest rate. Prime rate plus three percent is suggested as a much more realistic figure that would be acceptable

to Banks in present circumstances. With such rates the program could no doubt be expanded to other professions at the postgraduate level. Meanwhile the students at York University show enthusiasm for the present scheme. Clearly this is an area for which the Canada Student Loan Plan, with its rules on parental income and total loan ceilings, is not properly equipped. The authorities should, therefore, look carefully at the York system, especially since it is only just on the 'margin of survival' under the present terms.

Unlike the Yale and Duke Plans, the York University Scheme has no income-contingency element. It is a mixed scheme that falls between the Yale type plan and the completely private bank loan for education. The latter is now a growing feature in America. Mainly aimed at parents, and offering "lines of credit" that now go as high as \$30,000, they provide long term monthly repayment schedules. As an example the Irving Trust Co., New York, introduced (in September 1974) its School Chex Plan. This gives borrowers up to \$20,000 repayable at a fixed monthly sum, plus 12.17 percent interest charge, for as long as seven years. This latest 'market' rate of interest for the lowest risk borrowers of educational funds does indeed indicate that the York (Toronto) loans are at present underpriced. The latter are riskier because they are contracted with students; the Irving Trust plan is provided for parents (with approved credit).⁶

These examples show that a private capital market for educational loans does exist and is growing. It caters for segregated groups, namely the high income prospects (such as M.B.A. and other professional students), and students with wealthy parents.

A government policy that aims to reduce the burden of taxes on non-users could consistently encourage the development of this part of the loan market, and at little cost. However, we must repeat the warning that much more needs to be known about potential default costs. Although the York Plan is relatively new it has already 'suffered' one particularly expensive default. The delinquency rate so far has been six times the dollar value of defaults on consumer loans - although it is expected to fall in the future.

6. The New York Bank for Savings also has a new plan under which the parents can borrow up to \$20,000 and repay in monthly payments over four, six or seven years. Interest is at 12 percent to 11.4 percent depending on the length of repayment.

Chapter 8STUDENT DEFAULTS: COSTS, TRENDS AND IMPLICATIONSDefaults: Problems and Experience

The subject of default costs in student loan systems has been one of the dominant themes in this report. It is now time to focus exclusively upon the problem and the evidence. Although in terms of magnitude, defaults still represent only a small part of the total subsidy element to post-secondary education, the rate at which they are growing is a signal for serious concern. More importantly, if defaults are positively correlated with loan size, as we believe, we can expect their rate of growth to increase even faster than in the past as tuition fees are increased to cover increased costs of post-secondary education. As enrollments climb there will be more borrowers and hence a more than proportionate increase in defaults. For budgetary reasons alone it is useful for the Guaranteed Loans Administration to have an accurate prediction mechanism of the level of defaults as well as an information system to help reduce the level of defaults. Accordingly, we devote the next few pages to a discussion of the problem of defaults, a look at recent Canadian and American experience, and a consideration of solutions to the problem. It will be recalled that in our analysis of the comparative cost advantages of government intervention, lower collection costs through the agency of the income tax machinery became especially significant. Indeed we

were led to hypothesize that defaults would be high and growing if governments relied upon banks as the chief collectors. The following evidence supports this proposition.

Historical Trends

Government sponsored student loan schemes in the U.S. are older than similar programs in Canada. For that reason it is useful to study the recent history of defaults in their programs. The estimated costs of defaults in America has risen over the past three years from \$46 million in fiscal 1973, to \$88 million in fiscal 1974, to the \$115 million requested for 1975. It is interesting to note that while a major goal of President Nixon's policy, outlined in his 1974 budget message, was the expansion of the major U.S. Office of Education program, the Guaranteed Student Loan Program (GSLP), most of the actual increases requested for fiscal 1975 were to pay for the program's rapidly increasing default rate. Of the \$31 million asked for over last year's budget request, \$26 million is targeted for defaults.¹ More alarming is the percentage increase in defaults: 4.5% in 1972, 5.7% in 1973, 7.2% in 1974. Defaults are defined as the proportion of the value of loans due to be paid in each year that were not

I. The Chronicle of Higher Education. Vol VIII, No. 19 February 1974, p. 1.

paid. Finance companies report a 2.5% default rate;² but note that this is an overestimate of dollar loss since finance companies usually require physical collateral which can be repossessed.

In Chapter 2 we predicted that when defaults expand, education departments will play down or ignore the original argument that the income tax authorities are the most efficient collectors. The problem will be met with a policy of expanding the administration so that the situation can be studied and properly budgeted for in advance. In fact the Health and Welfare Department requested in 1974 thirty new positions to handle defaults. This brings the share of H.E.W.'s educational division's manpower used to handle defaults to 15% of total personnel. R.H. Wedemeyer has supplied us with additional evidence. He notes that the Office of Education assigned 46 more people to work in 10 regional offices in an attempt to improve the recovery rate on student loans.³ Recent theories of bureaucracy⁴ tell us that, once this bureau to handle defaults is created, there will in fact be no incentive for the bureau to reduce the number of defaults; for to do

2. "A Rising Fear of Student Bankruptcies", Business Week, August 31, 1974, pp. 56-57.

3. Wedemeyer, R.H., "The Identification of Potential Defaults and the Development of a Program to Assist Them in the Illinois Guaranteed Student Loan Program", unpublished Ph.D. thesis, Northwestern University, Evanston, Illinois 1974, p. 36.

4. See Niskanen, W.A., Bureaucracy & Representative Government, Aldine-Atherton Inc. 1971.

so would result in a reduction in the size of the bureau. Instead the inefficient collection procedures which encourage defaults will persist. The basic inefficiency is in having the lending institution collect the payments on the loans.

Canadian experience is similar, if less extreme, and at an earlier stage to that of the GSLP in the U.S. Since the institutional framework of the GSLP (from the borrower's point of view) is similar to that of the Canada Student Loan Plan (CSLP), we must expect that the problem will approach American magnitudes in Canada very soon.

Given the institutional framework of the collection system for the CSLP one would, to repeat, predict a high rate of defaults even without studying the evidence. The lag involved between leaving school and the time the first payment is due, during which there is no contact between borrower and lender, allows the borrower to "forget" his obligation. Another lag is introduced when the lender turns the delinquent account over to the Guaranteed Loans Administration (GLA). The GLA is not particularly efficient at collecting bad debts largely because of the lags involved and the lack of efficient liaison with other government agencies such as the social security which would be able to supply current addresses of defaulters.

In Table 1 we show a measure of defaults occurring in the 2 years after the borrowers entered the

"B status"⁵ and took this as a percentage of the total borrowers entering this phase in the corresponding year. We note a rather dramatic increase from 67-68 to 71-72. This parallels the U.S. experience. It should be noted, however, that the figures refer to numbers of defaults. Canadian figures for dollar values are unavailable but we but we have no reason to believe that the two measures are very dissimilar (See Table 1). Moreover these figures will overestimate longterm default costs since some recovery will occur after the second year of default although one has to allow for the extra costs of the policing and collecting agencies.

TABLE 1

PERCENTAGE GROWTH IN DEFAULTS UNDER THE
CANADA STUDENT LOAN PLAN (CSLP)*

<u>Year entering</u> <u>"B status"</u>	<u>65-66</u>	<u>66-67</u>	<u>67-68</u>	<u>68-69</u>	<u>69-70</u>	<u>70-71</u>	<u>71-72</u> **
2 Year cumulative default rate - %	.7	1.2	1.6	3.3	6.3	8.2	12.0

* Federal Department of Finance -
Guaranteed Loans Administration

** The data for 73-74 was available for the first quarter only. We have accordingly extrapolated to obtain a two year figure.

5. "B status" refers to those borrowers who are in the grace period or are still in school but have not taken out a loan in the current year. Since "B status" includes this second group, the number of borrowers actually required to repay should be less than the total "B status". For this reason the percentages given in Table 1 are probably underestimated.

The reasons for the defaults are given in Tables 2 and 3. The reader should note the similarities between these two tables. Over 75% of the reported defaults appear to be deliberate in each case. We shall see later that these results are somewhat biased. Meanwhile they point at least to the need for a modified collection system. We discuss some proposals later in the paper.

TABLE 2

REASONS FOR DEFAULTS - CANADA*

<u>Reasons**</u>	<u>%</u>
Non-cooperation	46.5
Unemployed	9.1
Short-term financial difficulties	2.9
Unable to locate	36.8
Other	4.8

* Federal Department of Finance -
Guaranteed Loans Administration
Spring 1973.

** These reasons are supplied by the
lender and are biased somewhat as
we see later in this chapter.

TABLE 3REASONS FOR DEFAULTS - U.S.*

<u>Reason</u>	<u>%</u>
Negligence	35
Deliberate evasion	32
Skips	11
Hardship	9
Illness	4
Bankruptcy	5
Other	14

* Wedemeyer op. cit., p. 35.

One interesting aspect of defaults has recently surfaced in parts of America. This has been the rise of bankruptcies among university graduates with large student loans. Evidence indicates that borrowers are declaring bankruptcy in an effort to discharge their loans. By declaring bankruptcy immediately after graduation (or leaving school) a borrower with several thousand dollars of student loan debt finds it easy to prove that his debts outweigh his assets and hence is legally able to declare bankruptcy. This seems to be a serious problem. For while the amount under consideration is relatively small, word is spreading of this legal loophole and bankruptcies represent a total loss to the system. Conventional

defaults may eventually be recovered to some extent; but a loan cleared by bankruptcy is irrecoverable.

A recent article in Business Week⁶ reports that, along with a rising tide of defaults, the student loan programs in the U.S. are facing a particularly high and growing bankruptcy rate. Approximately 5% of bad debts are due to bankruptcy. At UCLA the bankruptcy rate is now 5 per month, nearly double that of last year. There are indications that a similar trend is beginning in Canada. The solutions to this problem rest either on revising the bankruptcy laws to exclude the possibility of discharging student loans in this manner or on excluding student loan obligations from bankruptcy proceedings during the grace period and for five years after the borrower enters the repayment phase. This view is supported by the Sloan Consortium.⁷

Appropriate Policies

Early in this chapter it was pointed out that the institutional aspects of the current loan scheme would lead one to an a priori conclusion that defaults would be high. We propose two broad types of responses. The first is a short term policy. It takes the present institutional

6. op. cit. August 31st 1974, p.56.

7. Paying for College, Distributed for the Sloan Study Consortium by the University Press of New England, 1974, p. 67.

framework as given and makes marginal improvements via a management information system approach. We develop the analytics and empirics of this approach later in this chapter. The second policy is long term. It seeks a new institutional framework and one in which the tax machinery plays an important part.

One approach to the short term policy is to employ a monitoring and counselling program in an attempt to keep much closer track of borrowers and keep them informed of their obligations. This could be done for all borrowers as a sort of "shotgun" approach. Obviously this would entail the monitoring of borrowers who intended to repay in any case. A cheaper alternative would be to build a model which predicts the borrowers who are most likely to default and then monitor only these borrowers. This is the approach described in this chapter. Note that we do not advocate refusing loans to potential defaulters.

Solution 2 requires a new institutional framework which we feel can be approached in a step-wise fashion. Essentially we opt for some sort of graduated repayment scheme which is operated by the income tax authorities. This is part of the division of labor which we spoke of earlier. The private market concentrates upon the lending function while the government concentrates on the collection relying on superior information and stronger incentives to repay. This approach is elaborated in Chapter 9.

Analytics & Empirics

The management information system approach to the task of reducing default levels in student loan programs is a useful but interim solution. The program presented in this chapter has the virtue of not requiring major institutional changes.

Consider the following set of hypotheses that emerged in chapter 2 and suggest themselves directly from the loan collection framework of the CSLP. These hypotheses are:

$$1) D \propto 1/Y_f$$

$$2) D \propto l$$

$$3) D = \beta_0 + \beta_1 l + \beta_2 U_g + \beta_3 Y_f + \beta_4 Y_g$$

Where D = probability of defaulting

Y_f = family income

l = loan size

U_g = graduate unemployment

Y_g = graduate income

It is interesting to note straightaway that preliminary analysis of aggregate data (see Table 4) supports hypothesis 2 that defaults are positively correlated with loan size.⁸ Comparing columns 1 and 6 we find the correlation coefficient is .8240.

8. Under CSLP operations loan size and monthly payments are closely correlated. Hence hypothesis 2 may represent the relation between defaults and monthly payments.

TABLE 4

DEFAULT RATIOS; CANADA STUDENT LOAN PLAN
(JUNE 1973)

Size of Student Loan Range	No. of Students	%	No. of Defaults	%	Default Ratio %
1	2	3	4	5	6
1-1000	149,904	56.14	9,116	54.20	6.08
1001-2000	74,457	27.88	4,750	28.24	6.37
2001-3000	29,016	10.86	1,901	11.30	6.55
3001-4000	10,384	3.88	754	4.48	7.26
4001-5000	3,138	1.17	287	1.70	9.14
5001-6000	60	0.02	6	0.03	10.00
6001-7000	16	0.00	3	0.01	18.75
9000-10000	1	0.00	1	0.00	100.00
Totals	266,976	100.00	16,818	100.00	6.29

Estimated
Dollar
Amounts

a) Loans \$310 million b) Defaults \$20 million

b) as % of a) = 6.6 %

Our stated purpose in this section is to build a model to predict potential defaulters and to use this to make projections for the default budget. The model should a) assist in cash budgeting and, b) suggest a framework to monitor and assist borrowers, who are expected to default, to meet their obligations. The framework for this model

was developed by Dr. R. Wedemeyer in his Ph.D. thesis⁹. Our data consists of two parts. First, we use objective data, derived from the Ontario Student Assistance Plan (OSAP) files, on defaulters and repays. Second, we use an attitude survey distributed by the Federal Department of Finance to student loan defaulters..

..... It may help first to present a precis of Wedemeyer's methods and results before presenting our own results.

Wedemeyer sought to study the significant predictors of defaults by using a multiple discriminant analysis on groups of defaulters and repays. He also wanted to build the elements of an assistance program which might assist those who have defaulted, or are prone to default, to meet their obligations. He limited his study to variables on the student loan application form.

It is instructive to note the general results of earlier studies that Wedemeyer reviewed. In general, defaults have been found to correlate positively with: a) number of dependent siblings and b) financial status of the family. Defaults correlated negatively with: a) access to an automobile, b) level in school when loan taken out (i.e. seniors default less than juniors), and c) the existence of a savings account for the family. These are results which one would expect intuitively. (Loan size and graduate employment data seem to have been ignored in these earlier studies). A further study of

9. Wedemeyer op. cit.

the National Defence Student Loan Plan (NSLP) in the U.S. concentrated on testing the relationship between loan repayment and grade point average (GPA) and also between loan repayment and loan size.¹⁰ The findings were that GPA is not a significant predictor of defaults but loan size is significant in this regard - borrowers with large loans tended to default more than those with small loans.

Wedemeyer decided to employ a multiple discriminant analysis on equal samples of borrowers having repaid their loan in full and borrowers who are in default. Wedemeyer subdivided his sample into groups based on year of first guarantee and used data from 1969-72. In all Wedemeyer used 16 variables:

- 1) Marital status
- 2) Race
- 3) Zip code
- 4) Year of birth
- 5) Sex
- 6) Dependent code
- 7) Term of loan
- 8) Expenses
- 9) Financial Aid (other than student loans)
- 10) Class (year of study)
- 11) Amount borrowed (in total)
- 12) Other agencies which the student had borrowed from
- 13) Grade point average

10. Bergen, Bergen & Miller, "Do GPA and Loan Size Affect NDSL Repayments?", Journal of College Student Personnel, January 1972. pp. 65-67.

- 14) Subsidy code (deferred interest payments are based on adjusted family income.)
- 15) Adjusted family income.
- 16) School type (eg. public or private; two or four year, etc.

He found that some variables were not significant in predicting defaults; notably grade point average and school type. He also rejected race and sex since any sort of discrimination on these grounds conflicted with civil rights laws. After rejecting other marginal variables Wedemeyer ended up with 5 variables which were significant and predicted defaults 66.5% of the time and repays 71%.

The 5 variables were:

- 1) dependent code
- 2) term of loan
- 3) amount borrowed
- 4) subsidy code
- 5) adjusted family income

With respect to dependent code Wedemeyer found that students who were independent of parental support when they borrowed tended to default more than dependent students. Under the Illinois Guaranteed Loan Plan (IGLP) students could specify the length of time they required the loan for - one or more terms. Wedemeyer found that students borrowing for the full year tended to default more than those borrowing for one term. Borrowers with large loans were more prone to default than those with smaller loans. Under the terms of the program families with adjusted incomes of less

than \$15,000 are eligible for a Federal subsidy. Borrowers in this group have a higher default rate than those with family incomes above this level. Adjusted family income proved to be the most significant variable with borrowers from low income families defaulting more often than those from high income families.

Wedemeyer's work (as well as others he has reviewed) clearly support the first two of our three hypotheses made earlier (see pp. 168). We felt that this justified further testing with Ontario data. To do so, we selected a sample of OSAP files for each year from 1968-1973 (the year the borrower entered "B status"), taking equal samples of defaulters and those currently repaying. We then ran a multiple discriminant analysis.

Discrim Results

From the Ontario Student Assistance Program (OSAP) files we selected a sample of 50 borrowers currently repaying their loans and 50 borrowers currently defaulting for each year from 1968 - 69 to 1972 - 73 to yield 250 observations on each group. The years refer to the year the borrower entered the B status. (See footnote 5 above for a definition of the B status.)

Using the multiple discriminant analysis program DISCRIM we first ran 18 predictor variables for each group (defaulters and those repaying) :

- 1) Sex
- 2) Age (when the last loan was taken out)
- 3) Marital Status

- 4) Citizenship
- 5) Ownership of a Car
- 6) Living in Parent's Residence
- 7) Dependant Status (under OSAP regulations)
- 8) Number of Dependent Siblings
- 9) Number of Dependent Siblings in Post-Secondary School
- 10) Number of years of loan
- 11) Institution Class
- 12) Student Earnings
- 13) Tuition Fees
- 14) Family Income
- 15) Total Loan (distinct from grant)
- 16) Current Award (Loan plus grant)
- 17) Year in Program
- 18) Length of Program

The results with these variables were encouraging. Although the degree of discrimination between the two groups was not strong (central tendencies were - 2.9913 and - 2.1931), ten variables proved significant using the univariate F - test. Accordingly we ran a second DISCRIM on these 10 variables.:

- 1) Age
- 2) Marital Status
- 3) Dependent Status
- 4) Number of Dependent Siblings
- 5) Number of Years of Loan
- 6) Institution Class

- 7) Student's Work-term Earnings
- 8) Family Income
- 9) Total Loan
- 10) Year in Program

The results were very much improved : the degree of discrimination increased markedly (central tendencies of .2106 and 1.0732) and the F - tests were all extremely significant except in the case of "Family Income." Even in this case, however, the result was still significant at a 95% confidence interval. (For the reader's convenience the results of the discriminant analysis are reproduced in Table 5.) The analysis yielded the following discriminant function :

$$\begin{aligned}
 D_i = & .0575 (\text{Age}_i) + .1212 (\text{Marital Status}_i) \\
 & + .6394 (\text{Dependent Status}_i) \\
 & - .1825 (\text{Number of Dependent Siblings}_i) \\
 & + .4755 (\text{Number of Years Loan}_i) \\
 & - .4451 (\text{Institution Class}_i) \\
 & + .2358 (\text{Student's Work-Term earnings}_i) \\
 & - .0184 (\text{Family Income}_i) \\
 & - .1855 (\text{Total Loan}_i) \\
 & + .1589 (\text{Year in Program}_i)
 \end{aligned}$$

where the subscript i refers to the ith student group.

Using the results of the discriminant analysis, ie., the discriminant function, we derived a set of discriminant scores and a cut off value. The subjects having scores above this value are expected to repay, those below to default. This allows us to predict potential defaulters 78% of the time and

potential repayers 70% of the time.

This analysis indicates that it is possible to characterize potential defaulters on the basis of certain characteristics or attributes which are available on the existing student loan application forms. Discriminant analysis is most usefully applied on interval-scaled data; the scaling used is presented in Table 5. On the basis of this scaling and the G - means (also presented in Table 5) we can draw some inferences concerning defaulters:

- 1) Defaulters tend to be younger than those who repay;
- 2) Defaulters tend to be single rather than married or separated;
- 3) Defaulters are more likely to be classified as having dependent status - this is consistent with points 1 and 2;
- 4) Defaulters tend to come from larger families - again consistent with points 1, 2, and 3;
- 5) Defaulters tend to borrow for shorter periods, in most cases only one or two years;
- 6) Defaulters tend to be students from community colleges or other non-university institutions;
- 7) Defaulters tend to have lower work-term earnings than those who repay;
- 8) Defaulters tend to have higher family incomes but this is probably due to the fact that defaulters are more often dependent and thus list their family income while independent students list only their personal income (see points 1, 2 and 3);
- 9) Defaulters tend to have smaller loans which apparently contradicts our earlier hypothesis. This is most likely due to the fact that defaulters spend less time in school (see point 10) and hence take out less loans (see point 5);
- 10) Defaulters tend to either take shorter programs or fail to complete their programs.

TABLE 5
DISCRIM RESULTS

a) Data Scaling

1) Age : $18 - 20 = 1$ $25^+ = 4.$

$$21 - 22 = 2$$
$$23 - 25 = 3$$

2) Marital Status:

Married = 1

Single = 2

Other (separated etc, .) = 3

3) Dependency Status:

Dependent = 0

Independent = 1

4) Number of Dependent Siblings :

$$0 - 1 = 1$$
$$2 - 4 = 2$$
$$4^+ = 3$$

5) Number of Years of Loan :

Number used.

6) Institution Class :

University = 1

Community College = 2

Other = 3

TABLE 5 (continued)

7) Student's Work-Term Earnings :

0 - 250	= 1
251 - 500	= 2
501 - 750	= 3
751-1000	= 4
\$1,000 ⁺	= 5

8) Family Income :

0 - 3000	= 1
3001 - 5000	= 2
5001 - 7500	= 3
7501 - 10,000	= 4
10,000 ⁺	= 5

9) Total Loan :

0 - 300	= 1
301 - 600	= 2
601 - 800	= 3
801 - 1,000	= 4
1,001 - 1,400	= 5
1,400 ⁺	= 6

10) Year in Program :

Number used.

TABLE 5 (continued)b) Univariate F - tests

Variable	F - ratio	Probability
1) Age	26.89	.0000
2) Marital Status	7.95	.0054
3) Dependency Status	23.23	.0000
4) Number of Dependent Siblings	15.68	.0003
5) Number of years of Loan	26.13	.0000
6) Institution Class	13.48	.0006
7) Student Earnings	26.99	.0000
8) Family Income	4.04	.0426
9) Total Loan	9.14	.0031
10) Year in Program	17.19	.0002

c) G - Means

Variable	Defaulters	Repays
1) Age	1.7222	2.3243
2) Marital Status	1.0694	1.1959
3) Dependency Status	.1597	.4054
4) Number of Dependent Siblings	1.8542	1.5068

TABLE 5 (continued)

Variable	Defaulters	Repay
5) Number of Years Loan	1.5417	2.1554
6) Institution Class	1.4931	1.2635
7) Student Earnings	2.5208	3.4797
8) Family Income	2.8958	2.5608
9) Total Loan	3.5556	4.1757
10) Year in Program	1.6875	2.1959

Two applications of this analysis are immediately obvious. The first is concerned with the management information systems approach to reducing the default problem. By using the predictive powers of the discriminant model one can be selective in applying a monitoring and counselling program to aid defaulters in repaying their loans. This could result in significant savings in the operation of this program. The second application concerns forecasting of the default budget. Normal projection methods rely on a continuing 'state of the world'. In the case of the default budget this implies a projection based on the assumption that, among the students entering the loan system, the proportion of students who are likely to default remains constant. Given the short time series available it is not possible to make strong predictions concerning this proportion. It is possible, however, to infer whether or not this ratio of defaulters to repayers is changing and to use this fact to make continued adjustments to the predictions for the default budget.

With these results we next outline an approach to monitor and counsel expected defaults. To this end we also used a subjective survey distributed to borrowers who had defaulted on their loans. This was the questionnaire administered by the Federal Department of Finance. We felt that borrower perceptions of the scheme should influence the structure of the program we set up to assist them in meeting their obligations. As in all surveys of this type there is a problem with non-respondents. Wedemeyer¹¹ was able to test respondents vs. non-respondents in his survey. He found no significant differences in terms of personal characteristics. Lacking sophisticated data we assume no significant differences. The results of the Department of Finance questionnaire are summarized in Table 5. These are results only for Ontario - we deleted those applying to the other provinces. These results are very similar to those achieved by Wedemeyer.¹²

11. Wedemeyer op. cit., pp. 89-99.

12. Wedemeyer op. cit., pp. 108-111.

TABLE 6CHARACTERISTICS OF DEFAULTERS IN ONTARIO

1) Length of time to find employment (months)	0-1 25.8%	2-3 19.6%	4-5 5.8%	6-8 10.3%	8+ 38.5%
2) Aware of repayment obligations	Yes 90%	No -	Not Sure 10%		
3) Have you ever made payments:	Yes 57%	No 43%			
4) Reason for failure to repay:	Unemployed Underemployed Financially overextended Bank error Low interest Still in school On principle Medical Family Committments Prison No "valid" reason			26% 13% 21% 7% - 8% 1% 4% 3% 1% 17%	
5) Satisfied with current job	Yes 37%	No 63%			
6) Value of education in employment:	Essential Helpful No Value			17% 40% 43%	
7) Size of credit payments (on a monthly basis - does not include student loans)	\$ 0 - \$ 50 \$ 51 - \$100 \$101 - \$200 \$200+			39% 30% 22% 9%	

* Source: derived from the Federal Department of Finance survey of student loan defaulters. There were 411 responses from defaulters in Ontario.

The table indicates that approximately 50% of the respondents took six months or longer after leaving school to find employment. The grace period extends for six months after the borrower has ceased to be a full time student. We see that approximately one-half of the defaulters required a longer period to find employment. This leads us to recommend that a provision to extend this grace period be built into the collection system. Two pre-conditions must be met however. First, the borrower must prove financial difficulty; second, interest should accrue from the end of the normal grace period and be added to the principle when payments begin. Again we emphasize that an income contingent scheme with a reasonable repayment period and interest rate would alleviate this problem by relating payments to the borrower's income.

Jumping to item 4 in the table, we find that fully 60% of the respondents indicated some form of temporary financial difficulty (unemployed, underemployed or financially overextended) as a reason for defaulting on their loan repayments. Again a longer grace period conditional on proof of need and interest accrual could be a solution. Such a reform is obviously in the direction of a larger 'income contingency' element in the CSLP (consistent with or argued in the previous chapter).

From item 3 we see that 57% of the respondents have made payments on their loans at some time. Again this seems to indicate that temporary financial difficulty

is a definite cause of defaults. The solution here is again similar; a temporary deferral of payments, upon proof of need, with interest accrual is the obvious short term policy suggestion.

We note that 90% of the respondents are aware of their repayment obligations (see item 2 in Table 5). Being aware and reacting are two different things however. We would like to point out a need to remind the borrower of his obligation shortly before he leaves school.

We now come to some of the more pervasive problems. In items 5 and 6 of Table 5, we note that large numbers of defaulters are unhappy with their jobs and perceive their education as being of little value in the job market. It is not too heroic to conjecture that those who are dissatisfied with their jobs and feel that their education has not produced expected benefits will be less eager to repay education loans than those with positive feelings regarding their jobs. This is an area better left to sociologists. One can't help feel, however, that expectations of the rewards from education are inflated and that better counseling could resolve most of this problem in future.

Observe finally that some 60% of the borrowers report credit obligations in excess of \$50 per month (item number 7 in Table 5). This seems to be fairly rational behaviour judging from well-known life-cycle theories of consumption.¹³ However, such high levels of borrowing may

13. See those presented by Modigliani etc.

Modigliani, F., and Brumberg, R.E., "Utility Analysis and the Consumption Function : An Interpretation of Cross-Section Data," in K.K.Kurihara, ed. Post-Keynsian Economics, Rutgers Universty Press, 1954.

be a direct cause of the situation shown in the third row of item 4: "Financially Overextended". In this regard some form of counselling in matters of personal budgeting is in order to help borrowers avoid excessive credit obligations early in their lives.

In sum we propose extending the grace period until the borrower is employed and also allowing temporary deferment of payment in the event of financial difficulties. In both cases need must be proven and the interest on the unpaid balance would accrue and be added to the principle when payments began or were reinstated. These are hardly very radical recommendations in themselves; the conditions which prompt them reinforce our arguments for a scheme of repayments that is contingent upon income.

Consider next the high degree of mobility of persons leaving school on graduating. We feel that the educational institution should inform the lender when the borrower leaves school in mid-term. The lender would be required to contact the borrower immediately to remind him of his obligation and to establish a repayment schedule. The lender should send letters to borrowers at the end of each semester informing them that repayment must begin no later than six months from the date of leaving school should the borrower not be returning to school in the next semester. As the system is currently operated the lender sees the borrower in September of his final year (or the last year for which a loan is taken out) and no further contact is

required until November of the following year (assuming the borrower leaves school in May). We feel that some form of communication is required in the interim period. A letter at the end of the spring semester reminding the borrower of his financial obligation and also of the obligation to inform the lender of each change of address would satisfy this requirement. Given that we can discriminate between potential repayers and potential defaulters on the basis of information on the application form it seems reasonable to require the lender to contact only likely defaulters. It should be up to the Province to inform the lenders of the potential defaulters.

It is instructive to compare the results of the questionnaire (Table 6) with Table 2. Given the low rate of interest on student loans and the ease with which they can be turned over to the GLA for collection, the banks, as lenders, are not willing to expend a great deal of effort to collect the debt. If after performing the minimum required actions to secure payment the lender is unable to collect, the lender writes off the borrower as default through "Non-cooperation" or "Unable to locate" and turns the debt over to the GLA. A more stringent set of required actions on the part of the lender would reduce the number of defaults being reported by lenders.

A final question remains. Who is to pay for the additional administrative work involved in this program to

reduce defaults?¹⁴ Both equity and efficiency criteria discussed in earlier chapters indicate that the borrower should bear this cost through a higher interest rate on the loan. Accordingly we shall recommend this in our policy package in the next chapter.

These institutional improvements will not solve the problem of the 'hard core' or intentional defaulter. If a borrower deliberately enters into a contract intending to default there is no monitoring or assistance program that will stop him. The solution to this special problem is presented in the next chapter.

Projection of Defaults

We now turn to the final portion of this chapter, the question of projecting or predicting default levels. While the time series of our data is too short (5 years) for a rigorous projection of future default levels, we are able to draw some inferences concerning past trends and possible default levels in the future. Concerning past trends, if we plot the data given in Table 1 of this chapter (see Figure 1) we note that there has been a dramatic increase in the rate of defaults on CSLP loans.

14. Wedermeyer (op. cit.) argues that the responsibility for this type of scheme should rest with the guarantee agency. While this is justifiable on the grounds of information costs and uniformity of operation we must not lose sight of the fact that the cost of this administration is the responsibility of the borrower; otherwise it acts as another concealed subsidy.

GROWTH OF TWO YEAR OLD B STATUS STUDENT LOANS IN CANADA (CSI:P)

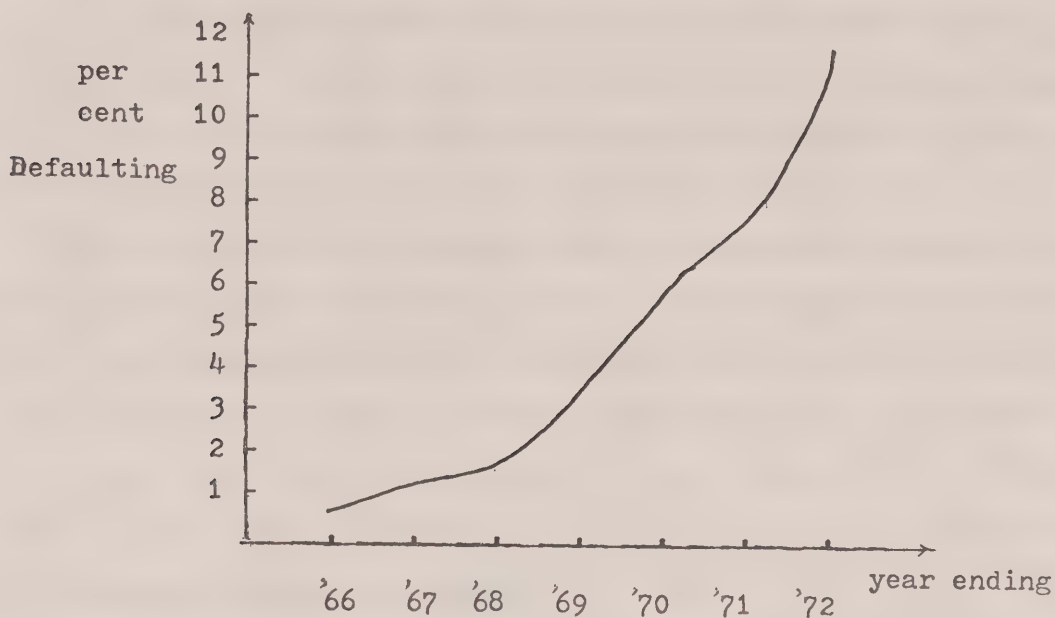


Figure 1.

Consider some potential reasons for defaults :

- 1) economic hardship - chiefly unemployment;
- 2) demonstration effect - as borrowers perceive other borrowers defaulting on student loans without appreciable penalty the incentive to default increases. This may account for the almost exponential increase in default rates as shown in Figure 1 above;
- 3) borrower characteristics - from the results of the discriminant analysis (Table 5) we saw that it is possible to predict potential defaulters on the basis of characteristics available on the student loan application form. If we find that more and more borrowers tend to exhibit these (defaulter) characteristics then it seems logical to conclude that the default rate will increase over time.

Item 2 in this list is impossible to test empirically thus we turn our attention to items 1 and 3. The results of the survey conducted by the Federal Department of Finance (see Table 6) indicate that there is a definite relation between the time

required to find a job (short term unemployment) and defaults (see item 1 in Table 6). In item 4 we saw that unemployment was most frequently cited as the reason for default. A better test of this proposition would involve the use of macro statistics on the rate of unemployment of recent graduates. Unfortunately such detailed statistics are not presented in the usual publications. In a recent publication by Statistics Canada¹⁵ there is a short article and some statistics concerning unemployment rates of persons who were full-time students in March of the year in question and did not intend to return to school in the Fall. The period covered by this article is only the years 1972 and 1973 but it is sufficient to give an impression of graduate unemployment. A portion of the relevant table is reproduced here as Table 7. As the reader can see the magnitude of the unemployment of recent

TABLE 7

Labour force status of school leavers (Post-secondary school) - 1972 and 1973*

	No. in 000's	
Year	1972	1973
Population	124	127
Labour force	115	112
Employment	96	97
Unemployment rates	16.5%	13.4%

*Sources : Table S - 1.3 in "The Labour Force" December 1974, Statistics Canada, Catalogue No 71 - 001.

15. Statistics Canada, "The Labour Force" December 1974, Cat., No 71-00

school leavers is quite high.

Reason 3 (borrower characteristics) for defaults is the most interesting. By grouping the data by years (1968-69 to 1972-73) rather than by repayment status and performing a discriminant analysis on those variables which led to a prediction of potential defaulters we are able to test the hypothesis that borrower characteristics tend, over time, to shift toward potential defaulters. The results of this discriminant analysis are presented in Table 8 which is similar in format to Table 5.

TABLE 8

Annual Discriminant Analysis

Table of G - means.

Year	1968-69	1969-70	1970-71	1971-72	1972-73
<u>Variable</u>					
Age	2.5417	2.0972	2.0286	2.0300	1.9200
Marital Status	1.1875	1.222	1.1286	1.1200	1.0410
Dependency Status	.5417	.3889	.2571	.3000	.1411
Number of Siblings	1.6667	1.6389	1.6143	1.6600	1.8871
Number of Years of Loan	1.8750	1.9028	1.8143	1.9607	1.6210
Institution Class	1.3125	1.3611	1.4429	1.3510	1.3800
Student Earnings	3.2708	3.1528	2.8571	3.0267	2.8910
Family Income	2.4583	2.5139	2.6429	2.8533	2.9811
Total Loan	3.5417	3.5556	3.7143	4.2131	3.8600
Year in Program	2.1042	1.9861	2.0429	1.9441	1.6711

We see that Age, Marital Status, Dependency Status, Number of Years of Loan, Student Earnings, and Year in Program all support increasing the default rate while the Institution Class, Family Income, and Total Loan are non-specific in this regard. In summary we find that borrowers are tending to be younger, single, come from larger families, borrow for shorter time periods, earn less during work terms and, finally, they tend to complete less of their programs. The dependency status issue is difficult to deal with owing to changes in the rules for dependency status during the period under study. As a final conclusion we note that the distribution of characteristics of borrowers in total is approaching, more and more, those of defaulters.

Chapter 9THE ULTIMATE LOGIC AND POLICY IMPLICATIONS

The previous chapters have contained a steadily unfolding logic. It is now time to recapitulate the main themes; and in such a way that appropriate policy almost suggests itself. We start with the more modest proposals concerning the present structure of student loans. We then proceed in a step-wise manner to indicate more fundamental changes that emerge as a natural corollary of the main arguments. As stated in the first chapter, the best strategy is that which is rooted to first principles. We have now reviewed the basic economic rationale for government intervention in higher education in general, and in the educational loan market in particular. But we are also conscious of the logic of political reality. Governments are electorally appointed bodies after all; and their actions are tightly constrained by the need for minimum voting support. We believe that our proposals will meet this additional test; and we shall illustrate this claim as we proceed.

Proposal (1) Lengthening the Period of Repayment

The first item on the policy 'menu' should raise little objection. It is to increase the length of the repayment period in the present Canada Student Loan Plan. It is true that under present circumstances the need for such extension is not very pressing for many students; but this is partly due to the relatively small amounts borrowed

at the moment. If extended use of the loan system is expected in the near future (see the Nova Scotia Cpmmission's views in our appendix No 2), we must anticipate that students will only be able to take on larger debt if the repayment period is extended. Evidence to this effect has been quoted in Chapters 7 and 8. The longer the repayment period option the more manageable the loan becomes for the borrower. We have argued that a repayment period extended beyond 10 years will reduce the borrowers subjective cost. This cost is related to the size of repayment plus interest to the borrower's income. Since income is expected to increase with time, the longer the repayment period the lower the relative consumption cut to the borrower. We argued in Chapter 6 that the repayment period should immediately be extended to 15 years, and that consideration be given to a further extension to 20 years in the near future. (For the precise reasons see Chapter 6.) The proposal should be politically palatable since it would meet the requirements of all parties. Those of the borrowers have already been explained. Those of taxpayers and governments will be met in terms of the likely reduction in default rates.

One necessary condition for the extension of the repayment period should be emphasized. It is that interest payments should be raised nearer the market level; that is it should not contain substantial subsidy elements as at present. This is so because if this privilege exists, the beneficiaries in the student loan program will enjoy an even

bigger subsidy when the terms of the loan are lengthened. Since this is not available to ordinary citizens in a similar stage of life there will be serious inequities and, therefore, political opposition.

An extension from 10 to 15 years repayment is a fairly modest proposal that is not likely to involve very serious liquidity problems in the banking system. When such problems do begin to look significant (eg. after the repayment period is extended to 20 years or more) it will be time to consider developing secondary markets in student loans similar to that now developed in America through the Student Loan Marketing Association (see appendix 1).

Proposal (2) Graduated Repayments

The Harvard Plan as we have seen (in Chapter 7) arranges that quarterly payments on loans increase at a rate of approximately 8% a year, a rate that is assumed to be roughly equal to the expected rate of annual increase in earnings of the average borrower. This provision is a further application of the logic for extended repayment periods. Both graduated and extended repayments systems enable the student to pay more easily out of his future income. We therefore recommend that the Canada Student Loan Plan, at least as it operates in Ontario, be so modified that repayments in the early years are reduced and those in later years increased. Again, as in the case of extended repayments, this modification will show its full benefit when students begin to borrow more to pay the increased costs of their

education. The move is, in other words, an advanced precaution; and the time is now ripe for it.

Proposal (3) A Modified O.S.A.P. Formula

We recommend a change in the formula of the Ontario Student Assistance Program such that the awards are concentrated more in the first years of university. In the first instance they should be concentrated on the first 4 years of study. At some future date consideration should be given to concentration upon the first 3 years; and later, upon the first two years. This recommendation is in line with the proposals of the Ontario Commission on Post Secondary Education (1972) as we interpreted it in our Chapter 5. The same broad strategy is evident in the 1974 Report of the Nova Scotia Commission (see Chapter 7). The N.S. Commission recommended that the subsidy should be concentrated in the first year exclusively. This prescription might well have short term political appeal. Nevertheless, we consider this to be going too far and too fast. It would involve a dramatic reduction in the anticipated costs facing the freshmen. If some significant positive price is charged, even in the first year, potential entrants to universities will make a more careful judgement before deciding. Such a positive price system would also seem to be more in line with the Nova Scotia Commission's own concern that the universities are crowded with students who are not suited.

The implication of our proposal is that the initial way to meet the growing financial problem is to raise substantially the fees of those classes of postsecondary beneficiaries who stay more than 4 years in the system. This in turn calls for special reforms of the loan system to meet the new needs of these students. Before proceeding to these needs, we shall first address the problem of 'junior' student financing, i.e. those in the first 4 years of their higher education career.

For these students, who receive anything between one and four years higher education, we propose that for the next two years the Canada Student Loan Plan be continued, but only after some specified reforms in it. Two of these have already been mentioned; the provision of longer repayment periods and the adoption of the graduated repayment principle.

Next the loan ceiling under OSAP should be raised in successive stages until the grant proportion of the award is reduced to zero. Such increases are based on expected increases in fees in the near future for reasons to be explained later in this chapter. Another requirement is that OSAP should be monitored more closely than it has been, and a better data bank be established (a computerized system). Finally as a condition of its continued operation the program be bolstered by a default monitoring program similar to that outlined in Chapter 8 and using the kind of findings that were produced there. We can not conceal our skepticism whether the default problem will ever be resolved satisfactorily within the CSLP as it is now structured. If our fears are confirmed the CSLP should be replaced

by a system that is modelled on the one we shall recommend (below) for professional students. In the meantime, the present methods of pursuing defaulters by means of a private agency should be continued.

Proposal (4) Realistic Interest Rates

Our fourth proposal is the incorporation of an interest charge which is closer to the economic cost of lending; close, that is, to the opportunity costs of government funds. We suggest in the first instance that the present method of averaging bond rates be continued, but that one percent in the first instance be added to the final average. This adjusted interest rate will still not be as high as the market rate; but it will be a move in the right direction. Meanwhile if governments can establish loan schemes based on their real comparative advantages, the rate of interest need not rise to a figure like 15 per cent that would be required to cover present default costs. But subsidies should be removed from loan servicing charges. Clarity requires that subsidies to students should be channelled into other areas before deciding upon the student share of the education cost. Once this share has been decided it is pointless to disguise that share once again by further subsidies. Such a method does not give the student a clear idea of the costs that he is being invited to cover; and it is clear information on this that is one of the purposes of the fee system in the first place.¹

1. See especially the argument of the Ontario Commission on Post Secondary Education, Draft Report 1972.

Proposal (5) Abolition of Means Test

Our fifth proposal for reform in the CSLP is that the means test should be abolished. After the interest rate is raised nearer to the market rate (see our fourth proposal) there will be less need to ration student loans. The current need to ration is an indication of the underpricing of the present loans. With universal access to the loans up to the first 4 years of higher education, there will be more flexibility of finance for a wide variety of students. In particular there will be facilities for those students who want to finance themselves more in this direction than by use of, say, the earnings from summer employment. Once the means test has been abolished, incidentally, the CSLP will be more similar to the Guaranteed Student Loan Plan in America.

Proposal (6) Higher Loan Ceilings

Our sixth proposal is that in order to give more flexibility the federal authorities be urged to raise the maximum annual loan in the CSLP from \$1,400 to \$2,500 the figure that prevails in the American GSLP. The maximum total loan of \$7,000 as at present can be retained for the moment since this figure is rarely attained by students already. Meanwhile the more affluent the government loan scheme becomes, the less the need for capital rationing at present levels.

Proposal (7) A Provincial Loan Supplement

Our seventh proposal is that, especially if there is delay or reluctance in expanding loan ceilings in accordance with our preceding proposal, the Ontario government should seriously consider setting up its own loan program similar to that which is now operating in Alberta.

Proposal (8) Graduate Tax

Throughout this Report two major themes have developed. First, there is a great need for the development of loans based on the income contingency principle. This principle meets the efficiency requirement of providing insurance elements for borrowers who face some uncertainty as to their future income. It meets also the concern of those who expressed doubts whether it is wise or desirable for students from low income origins to take out large amounts of debt; or that there will be little prospect that such individuals will be encouraged to take on any debt burden. As previously explained with the income contingency system of loans there is no burden of debt that must be paid; repayment falls only on the prosperous, that is upon those persons who graduate and earn income at or above a given (and usually high) level.

The second emerging theme in our Report is that the failure to use the income tax authorities for collection purposes has been a crucial error. We argued (in Chapter 2)

that use of the income tax machinery constituted the main comparative advantage that governments have over private markets in lending. Our documentation of the evidence on defaults in Canada and America provides significant testimony to this conclusion.

We now need a new policy that will take account of both our major critical themes, the need for income contingency plans, and the need to use the income tax authorities. A policy that meets such requirements is indeed available. We shall apply it in the first instance only to those individuals in the post-secondary system about to receive more than four years instruction - namely future students for the professions. It is appropriate that we first concentrate upon 'seniors' because we have argued, especially in Chapter 5, that this group, on Rawlsian equity grounds, should begin to bear the burden of increased student contributions; and, on efficiency grounds, can be expected to be willing to do so. The proposal that we have in mind for this group is not formally described as an income contingency loan system, although it simulates one. The proposal is for a Graduate Tax.

Self-selecting private borrowing groups operating on the income contingency principle, groups such as that serviced by the Yale Plan, are like private finance clubs that eventually "tax" some members more than others. We propose that in future such a tax should be imposed on the individuals who, since 1977 have (a) received more than /

higher education at zero price, (b) who earn above a certain income over a certain stipulated time. The tax should run for a given number of years. The repayment period, as applied to separate cohorts of students at Yale University, should allow you sufficient time to repay the total borrowing plus market rates of interest. We propose that the maximum period in Canada (or Ontario) should be 20 years. The question of the precise proportions of income to tax will be discussed later. Meanwhile the proposal is in line with our first major theme: an income contingency scheme. All past graduates will be exempt; only graduates after 1977 will be affected.

The second of our themes, the need for the collection services of the income tax authorities, is obviated in the very characterization of the repayment as a tax proper. This feature obliges the income tax authorities to collect since no other agency is allowed to exist for that purpose. This system should be distinguished from that whereby the tax authorities are used to cooperate with existing loan systems. The cooperation would be in the nature of using the tax authorities as collectors of debt. This method has to face the traditional reluctance in the Income Tax Service to play the role of debt collector, and especially for outside agencies. We avoid this problem by using the tax authorities in the role of tax collectors proper; and the service will be rendered, as usual, exclusively to the government. The tax in effect will be a surtax upon individuals within a given new schedule, namely the graduate with more than 4 years university or other post-secondary

education. It would apply after a certain level of income is being earned.

Assume for the moment that government provides such individuals with their education in the 5th, 6th and 7th years at a university (or its equivalent) free of charge in the first instance. One procedure would be to oblige the relevant educational institutions to notify the social security and income tax authorities. The students would also be obliged to file a return to the same authorities independently. In this way the student's obligation will be automatically computerized to provide a check for future income tax purposes. A classification to be included in future income tax returns would relate the individual's educational status. This information, together with that of the individual's current income and the number of previous repayment credits, would enable the tax authorities to assess and obtain the appropriate repayment. The repayment should be aggregated so that government could conveniently earmark the relevant total of funds to the education account. The virtue of this system is that it reduces considerably the incentive to default. This is because the penalties for false information on income tax are much more serious and predictable than those imposed by a separate guaranteed student loan organization. The disincentive is more pronounced where the individual automatically foregoes his rights to social security benefits when he defaults on tax. Another reason why defaults will be reduced is that a tax,

unlike a loan, is not dischargeable through bankruptcy proceedings.

The imposition of the special surtax cannot be criticized on the grounds that the individuals can already be expected to pay "sufficient" in the form of income tax on their higher salaries. As we have seen this is a popular fallacy. If it were true the argument would lead to proposals for subsidizing the investments of all private corporations on the grounds that they too will eventually repay in taxes. The point is that the student with more than 4 years education is receiving a service that other individuals do not receive. The surtax is a repayment for this extra service no more and no less (See page 106.)

Our Graduate Tax proposal would seem to meet the political test. This can be seen from a consideration of the following two policy alternatives in the setting of a continuation of the restriction on total public funds for education. The first is to announce that future cost increases in higher education are to be financed by students taking on significantly increased burdens of debt. The debt is to be handled by the existing CSLP. The second policy alternative is for the government to announce that the future cost increases are to be paid from a special tax on the rich; or more precisely on a special ^(extended) subset of the rich. The term 'rich' can be defined in absolute terms if required; it would refer for instance to all those persons who are expected to earn above a third or a half of a

million dollars in their lifetime. The second, or 'tax the rich', alternative best meets the political test; for it reassures that it will not penalize the poor generally and poor students in particular. Moreover it gets away from the objection that poor students are not used to a tradition of incurring large debts. Again the graduate tax would meet the Rawlsian equity arguments for it would enable the community to recover the value of the resources devoted to higher education from those who have themselves derived substantial benefit from it.

We need next to consider the objection that a national system of income contingency repayment would encourage adverse selection in the sense that individuals with only doubtful prospects of profiting from education would be encouraged to enter in large numbers. One obvious way to attempt to control this would be for the educational institutions to exercise greater vigilance in student selection. A problem with this however, is that since the personnel employed by the same institutions stand to gain by large numbers of enrollments the wrong "incentives" exist to make the system completely efficient. With respect to our own proposal for a graduate tax however, we have a much more immediate answer. The students we are concerned with have already been efficiently selected by the educational process. Typically they are individuals who already possess a first degree and are proceeding to a second or a third. This characteristic also puts them in the category of a self selected (or risk-rated)

group of income prospects; the average income expected by such individuals being well above average.

Another argument sometimes made against the income contingency repayment system is that it would encourage the beneficiaries of education to avoid high paid employment. This is sometimes known as the problem of "moral hazard." If however, it is typically more than worth the student's while to invest in himself e.g. to become a doctor, it is not likely that he will normally attempt to forgo these greater benefits for the sake of avoiding a relatively small cost; i.e. one which is a small proportion of his total expected professional income. We presented argument and evidence in Chapter 5 to the effect that the net private benefits - especially in monopoly professions, - are likely to provide sufficient inducement in most cases. Meanwhile much depends on how high the graduate tax is. We now proceed to some illustrated calculations.

Graduate Tax Calculations

Using data from the Highly Qualified Manpower Survey for the year 1973 (and made available for the first time in 1975) we construct a set of "taxes" to be levied against graduates having attained more than one degree. To begin the discussion we construct a model based on three simplifying, but intuitively appealing, assumptions :

$$1) Y_L \propto t$$

$$2) C \propto t$$

$$3) Y_L \propto C$$

where Y_L is lifetime income (here lifetime is taken to be 20 years)

C is education cost (instruction cost).²

t is time spent in school after primary degree.

The variable C is not necessarily equal to the full costs of instruction but in fact may be, and typically is, less. Thus in Figure 1 (which reproduces Fig 4 - 1) the price to the individual Pf covers one third of the costs. On the argument of Chapter 4, other things being equal, economies in the capital (loan) markets will shift the private demand curve to the right and this will increase the optimal private, relative to the public, share of total costs. Figure 2 (which reproduces Fig 4 - 3) differs from Figure 1 only in that the private demand curve Dj (and consequently ΣD) has shifted to the right resulting in a two thirds private share of total costs. (Compare Pf in both diagrams).

It is true that the new system might not reduce borrowing costs below their present levels to participants in O.S.A.P. But that system involves considerable capital rationing. Less than one in two students are able to take out loans; and their average dollar value is low (\$760 in 1973).³

To continue with our model. We shall concentrate exclusively on post-graduates and upon the graduate tax experiment. (The findings however can be coupled with more efficient conventional loan schemes that incorporate (a) income contingency (b) lower defaults.) We calculate the "debt" at graduation under the following

2. Cost figures derived from Financing Post-Secondary Education in Ontario. (Prepared for the Wright Commission on Post-Secondary Education in Ontario)
3. Under the present scheme assistance is available only to students whose parental income is relatively low or who are able to gain "independent" status by virtue of their age or marital status. Those who do gain such access or assistance are further restricted in the amounts they may borrow in any one year and in total. Thus the fixed capital of universities and the students' time may be underutilized since the students must take time from their studies to work to obtain money to finance their education.

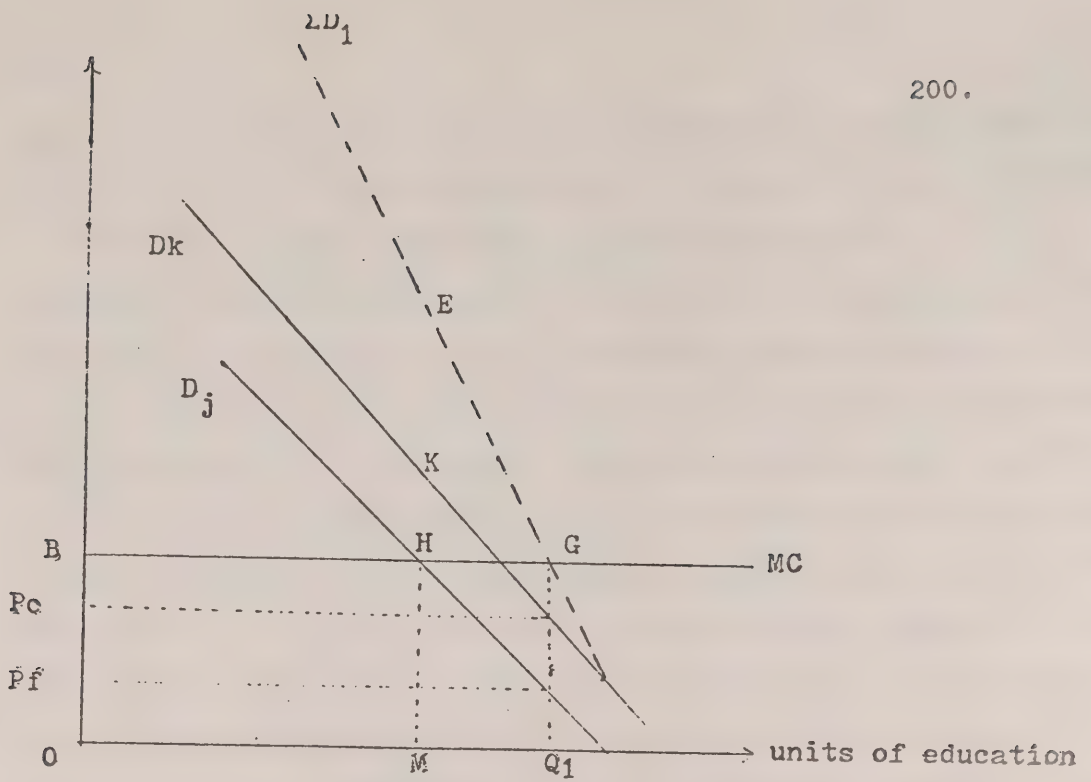


Figure I

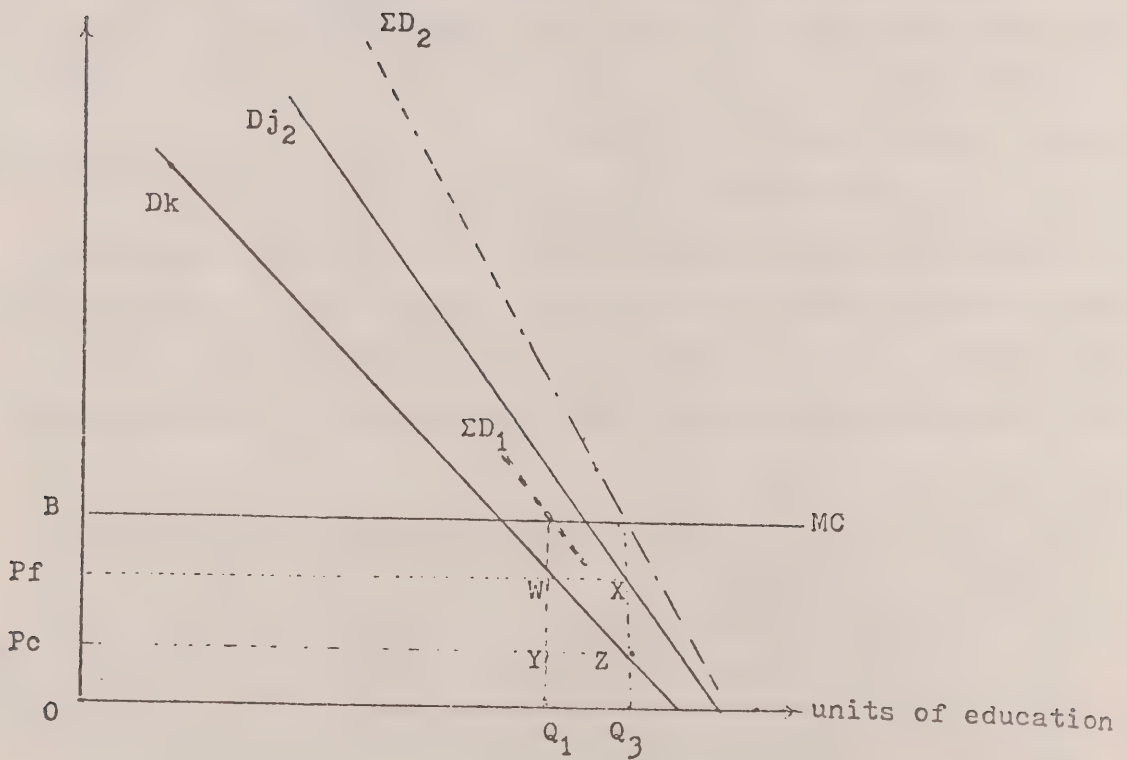


Figure II

further two assumptions:

4) No interest-free period

5) Compulsory use of the "loan" scheme for payment of tuition fees - this allows for maximum cross-subsidization of participants.

Under these assumptions we get :

$$D = t c + \sum_{i=1}^t \sum_{j=1}^{t-1} c_i r^j - \sum_{k=2}^t \sum_{n=0}^{k-2} c_k r^{t-n}$$

where D = debt level upon graduation

c = annual cost of education

r = interest rate charged on the loan (here we compound annually).

From assumption 1 - 3 above we are thus able to derive :

$$Y_L = a + b D$$

However this is not particularly helpful since we wish to derive a tax rate which will make the program self-financing. We must account for the fact that the loan is to be repaid over time (here 20 years) and take the present value of this debt at some point during the repayment period when it is expected that half of the debt has been repaid.⁴ Since the repayment rate is contingent upon income we choose a point in time after the halfway point. For our purposes we used the present value in year 12 as the independent variable to get :

$$Y_L = a^1 + b^1 P V_{12}^D D.$$

where PV_{12}^D is the present value of the debt at $t + 12$ years.

In order to cover inescapable failures (death, disability and so on) we multiply PV_{12}^D by a factor greater than one. This factor will have to be determined empirically and is one of the policy

4. By so doing we obtain a debt figure, the repayment of which is spread over the 20 - year period.

parameters available. (The others are repayment ceiling and repayment period.) For the current calculations we assume a 1.5 per cent loss rate through these inescapable failures.

For the Highly Qualified Manpower Survey for 1973, Statistics Canada sampled 476,650 university graduates and classified the respondents by sex, program, highest degree, and years since highest degree conferred. For our purposes we employed the data on graduates having degrees or diplomas at the post-bachelor level. We performed the calculations on various groupings of these graduates at various cost levels. These results are reproduced in Table 9 - 1.⁵

Private Share in the Cost of Education

	1/3 Cost	1/2 Cost	3/4 Cost
All Post-graduate Holders	2.56 %	3.83 %	5.117 %
All Male Post - graduates	2.55 %	3.83 %	5.115 %
All Professional Post-graduates	2.55 %	3.83 %	5.113 %

TABLE I

The findings of Table 9 - 1 should be read as follows. If all post-graduates (second or third degree holders) were charged

5. The calculations proceed as follows :

Footnote 5 continued :

Suppose a graduate has an income expectancy, over the 20 year period from graduation, of \$600,000 and a debt level of \$15,540. Then we require $15,540/600,000 \times 100 = 2.59\%$ of that 20 - year income to repay the debt.

Note that the figures are very similar for all graduates, all males, and all professionals. This is due to the much greater number of male than female graduates. Hence there is no "risk" to the male graduates of including female graduates in the tax scheme.

one third of instruction costs of education and were given 20 years to repay, they could do so on average by imposing an annual tax of 2.56 per cent of their net income over that period. If they were charged half the instructional costs they would need a "tax" of 3.83 per cent and so on. Some interesting and important points are immediately revealed by the Table :

- 1) the tax rate is sensitive to the cost of tuition
- 2) the tax rate is insensitive to the male - female grouping - this is largely because the male graduates outweigh the female graduates by a significant number.

These tax rates are applied to the graduate's adjusted income; by which we mean the income after normal deductions (i.e. his taxable income). This keeps the tax base much larger avoiding the high marginal tax rates which encourage out migration or act as work disincentives.

Some other issues must be considered. The first concerns the particular tax base to be used. Our reasons for a very broad base have already been given. True, there are 'equity' justifications for reducing the tax base just to the differential between incomes for graduates of professional and post graduate programs and those of graduates with primary degrees. But suppose we refined the system to make the cohorts more homogeneous. Consider a cohort entering a rather low paying field. Those members of the cohort who were successful in it would pay an abnormally heavy marginal tax for the early years of their careers - until the repayment ceiling was reached. It should be emphasized that we are using the tax system here in effect to

impose a "user charge" on users of post-secondary education and not as a means to encourage redistribution of investments by affecting rates of return. Thus there is no justification on those grounds to tax only the differential income.⁶

Table 1 contains useful information against which we may set the present structure of educational finance. At the moment student tuition fees cover about than one ninth of the instruction costs. Table 1 shows that even if we trebled the fees the cost to the student would be no more than 2.56 per cent of his income for 20 years after he left college. To double the fees immediately, or to increase them by 50 per cent, would contribute significantly to educational finance, but would cost the student considerably less than 2.56 per cent of his income for 20 years afterwards.

Clearly our reasoning indicates the need for flexibility in the student fee element in post-secondary education in Ontario. The present situation brings the worst of all worlds. Institutions are prevented from raising their fees, yet they have to suffer reduced grants, are prevented from cutting enrollments, whilst all the time facing increasing costs. The result is that they are being forced to accept administratively decreed 'economies' such as increases in teacher/student ratios and reductions in the ability to attract, or to keep, first class teaching and research talent. The quality of education is thus forced down; the demand

6. In the above calculations we have used a proportional tax. It requires a small modification to generate a progressive tax rate.

for places at Ontario institutions is reduced, and that for places elsewhere - including foreign countries - is expanded. The argument for the present freeze on tuition fees is presumably based on political considerations. Increases, it is argued, would be too hard and inequitable on students. Our argument is that the policy package should include other changes as well as fee increases; it should incorporate a reformed and expanded loan or graduate tax system based on the income contingency principle; fee increases could not then be 'hard' on students. Those in the minority that did not succeed significantly in their later careers need not pay them; whilst those who did would be wealthy enough to do so. Meanwhile the low-income non-user who pays taxes to contribute to post-secondary education would be better served - as would the most important of the equity considerations, the one that includes his interests.

The income contingent repayment scheme, which we are simulating with out graduate tax proposal, avoids fixed obligations; hence it collects nothing from those who do not work, notably married women. It seems illogical that many

married women with some degree of professional or post-graduate education will choose not to work at all. Even if they have children, the opportunity cost of not working will be very high - especially once the children go to school. By having a repayment period of twenty years we would probably be able to recover a sizeable portion of the money "lent" from even married women who chose to remain home long enough to have a family and raise the children to school age.

Administrative Feasibility of the Graduate Tax

The question of the administrative feasibility of the graduate tax should next be faced. Moreover in view of the long established influence of the I.R.S. bureau it translates in a sense into another question of political feasibility; for unless reasonable co-operation is forthcoming from this department of the Civil Service government ministers will be faced with considerable problems. We should make it clear therefore that we are not asking the I.R.S. to act as debt collectors. Their function will continue to be the traditional one of taxation assessment and collection. This means for instance that the problem of some individuals emigrating to avoid their obligation to 'repay' their educational training is not to be regarded as a special tax loophole for which the I.R.S. is responsible. (It should be noticed meanwhile that the emigration problem is common to both the graduate tax and the conventional loan system so that in substituting there is no net disadvantage on this score.) The responsibility for setting the rate of the tax will be a Treasury one exclusively.

This leaves the latter agency free to calculate the tax as if it were a self-financing income-contingent loan system and simply pass on tax instructions to the I.R.S.

Expenditure of Individual Education 'Awards' under the G.T. Scheme

Our plan assumes that future public funds allocated to the education of young individuals (typically in their twenties) will be re-couped via the special tax on them in their later years. Nothing has been said so far however, about the way the government funds are to be spent. One way is to channel them through the institutions in the form of higher per unit grants (B.I.U.s) to the Universities. An alternative, which is recommended here, is that the funds are channeled to the individual student just as they would be if they were allocated through a conventional loan scheme. The universities would then receive them via increased fees. It will be necessary next to confront one recent criticism of such a plan.

In a recent book M.L. Handa⁷ has criticized the use of tuition fee increases as a method of shifting the burden of financing post-secondary education from the taxpayer to the student. He summarizes his argument as follows: "The suggestion of raising fees with a view to shifting the burden (of educational expenditures) from the government to the public or consumer of education is too simplistic and ignores various indirect effects on university enrollments and educational expenditures. Also it is fraught with the possibilities of increasing social inequities."

7. Handa, M.L., Toward a Rational Educational Policy
Ontario Institute for Studies in Education, Toronto 1972.

Three arguments seem to be embodied in this statement. Concerning the first we are not encouraging a shift of expenditure from the government to the public; for they are one and the same. Our proposals are intended to serve the politically (or officially) expressed desire to redirect the burden of post-secondary educational finance from the public at large to the beneficiaries of this education. These points have been made earlier in this paper and will not be repeated here. Handa's third argument (on social inequities) seems to stem from an undefined notion of equity. He argues, correctly, that, "By raising fees the burden will be shifted not to the public at large but to that particular section of the public who are actual consumers of university education."⁸ But further, that this "... might be introducing one more degree of inequity into an already inequitable system."⁹ For reasons previously elaborated (in Chapters 3 and 4), our policy proposals in this Chapter^{do} satisfy the objective of equality of opportunity, while improving equality of financial burden and reward.

Handa's second argument is based on his model of the expenditure decisions of university administrators.¹⁰ It's explanation begins with the following equation, the co-efficients of which are based on historical statistics.

8. *ibid* p. 207.

9. *ibid*.

10. *ibid* p. 209.

$$K_{1t} = 0.2965 + 0.00001R_{1t-1} + 0.81148K_{1t-1}$$

where K_{1t} = current per student expenditure

R_{1t} = current revenue

K_{1t-1} and R_{1t-1} represents lags

Handa argues that university administrators will respond to the fee increases, which will produce a shift in R_{1t} , by increasing per student expenditures, K_{1t+1} . This will be especially true if the fee increase is viewed as permanent. Handa is apparently impressed with the absence of an incentive for the university to reduce its demand for government funds merely because university revenues from fees have been increased.

Now it is true that one prediction of the modern economics of bureaucracy is that the self-interest of bureau members funds expression in a continuing and relentless pressure to expand the size of the bureau budget, from whatever sources and by whatever means.¹¹ But the full strength of this effect occurs only in the most monopolistic and monolithic bureau. The nearest the universities get to being a monopoly is the cartel. More important, the larger the student fee (consumer price) element in the university revenues, the greater the possibility of increased competition and cartel erosion. In our scheme of things the student fee proportion will increase.

11. For a discussion of the economics of bureaucratic actions see Niskanen, W.A., "Nonmarket Decision Making: The Peculiar Economics of Bureaucracy", American Economic Review, 1968.

In this case the economic structure of institutions cannot be treated, as Handa does, as being constant. This being so in Handa's terms there will be an increase in F_{1t} that will offset a decrease in G_{1t} . After that, with G_{1t} frozen at its new level, G_{1t}^* , all or most increases in expenditure will be financed by increases in tuition fees. It is possible, perhaps probable, that fees will not be standardized across the province. This will prevent K_1 from rising indiscriminately as universities will be forced to compete through both price and product markets.

This concludes the essentials of our proposal for a graduate tax. Its three aspects are (1) the determination by the Treasury of the appropriate tax rate as if it were a rate applicable to a self-financing income contingency loan; (2) the very separate function of composition and collection of the tax by the I.R.S.; (3) the initial allocation of funds as if they were loans i.e. directly to students for their use in education exclusively e.g. in the form of education vouchers.

Smaller details of the plan obviously need to be filled in. But these can be a subject for further discussion and research.

We should stress finally that we recognize that in some quarters the move to the graduate tax described here will be regarded as somewhat "radical". This is one of the reasons we advocate its adoption in the first instance in one section of post-secondary education only - the post-graduate section. It is a long term plan and we predict that experience with it will eventually lead to wider adoption of it in other parts of the

system.¹² There are two important 'middle-ground' improvements applicable to these other sectors meanwhile and we shall conclude by classifying them as Proposals 9 and 10.

Proposal (9) Income Contingency

A change to income contingent elements in the present loan system for undergraduates and public encouragement for private or local income-contingency schemes similar to that described for Yale University.

Proposal (10) Defaults and Social Security Files

A determined policy to reduce defaults. One extra way of effecting this has emerged in our discussion of the graduate tax: As a condition of obtaining a loan, a student should simply be asked to give the CSLP or OSAP authorities access to his social security file. This information would more readily, and at little cost, enable "skips" to be traced.

12. However 'radical' the original proposal for contingency loans by Professor Milton Friedman clearly advocates the use of the I.R.S. as collectors.

THE STUDENT LOAN MARKETING ASSOCIATION

Student Loan Marketing Association ("Sallie Mae") is a U.S. Government-sponsored private corporation created by the 1972 amendments to the Higher Education Act of 1965, to provide liquidity, primarily through instituting secondary market and warehousing facilities, for insured student loans made by eligible lenders (including educational institutions) under the Guaranteed Student Loan Program ("GSLP"). GSLP is a program provided for by the Act and related legislation pursuant to which the U.S. Government, States and a limited number of nonprofit private agencies insure loans made to students by eligible lenders and the U.S. Government reinsures certain loans insured by States and private agencies. The Office of Education ("OE") reported that as of January 31, 1974, approximately \$6.7 billion of student loans had been insured. OE estimates that approximately \$5.2 billion of such insured student loans were outstanding as of January 31, 1974. Under the Act, Sallie Mae is authorized to purchase, warehouse, service, sell or otherwise deal in student loans insured under GSLP and to make commitments for any of the foregoing.¹

Sallie Mae began its initial program (the "Warehousing Advance Program") on October 4, 1973, by offering warehousing advance loans to qualified institutions at

1. The principal office of Sallie Mae is at 1750 K Street, N. W., Washington, D.C., and its telephone number at such office is 202-785-8008.

specified rates and maturities. As of March 31, 1974, Sallie Mae had disbursed approximately \$101.9 million in warehousing advance loans and had outstanding commitments for \$10,865,000 in additional loans pending settlement. The Board of Directors of Sallie Mae has authorized the commencement of a guaranteed student loan purchase plan (the "Loan Purchase Program"). Operations under the Loan Purchase Program began in the second quarter of 1974.

Sallie Mae obtains operating funds primarily from the sale of its debt obligations. Funds can also be obtained from the sale of common and preferred stock. Sallie Mae receives no direct federal funding for its operations. Issuance of preferred stock and obligations of Sallie Mae and the maximum number of its share of common stock which may be outstanding are subject to certain governmental approvals. The Secretary of the Department of Health, Education, and Welfare ("HEW") is authorized, prior to July 1, 1982, to issue guarantees of Sallie Mae's obligations, and any such guarantees will be backed by the full faith and credit of the United States. \$150 million of such guaranteed obligations were outstanding as of April 10, 1974.

The United States Government does not guarantee funds invested in the stock of Sallie Mae, the payment of dividends on shares of such stock, or the profitability of Sallie Mae

Business and Operations

The purpose of Sallie Mae is to function as a private corporation providing liquidity to banks, educational institutions and other lenders engaged in GSLP in a manner which will increase the amount of funds available for lending under GSLP. Sallie Mae's earnings derive primarily from a favorable difference ("spread") between rates at which it is able to borrow money and rates on insured student loans owned by Sallie Mae and obligations evidencing advances made by Sallie Mae to qualified lenders, net of servicing and other operating costs. Volume may also be a major factor in determining profitability. In addition, Sallie Mae derives income from the investment of funds borrowed by Sallie Mae but not immediately necessary for the implementation of Sallie Mae's programs. Sallie Mae engages in money market transactions in order to seek the lowest possible effective cost of funds for financing its programs. Sallie Mae possesses broad statutory authority to develop liquidity for lenders engaged in GSLP, primarily through providing a secondary market for student loans and engaging in warehousing activities. Secondary market activities can involve the direct purchase and sale of student loans by Sallie Mae as well as issuance by Sallie Mae of commitments or other undertakings with respect to student loans in order to enhance their marketability by others. Warehousing operations involve the making of loans (secured by student loans) to lenders engaged in GSLP. The

prices, terms and conditions for the foregoing are as determined by Sallie Mae.

Warehousing Advance Program

In September, 1973, the Board of Directors of Sallie Mae authorized the commencement of the Warehousing Advance Program which involves the making of loans (warehousing advances) to institutions qualified to make student loans under GSLP. These warehousing advances are secured by student loans insured by the U. S. Commissioner of Education or by a State or private nonprofit institution with which the Commissioner has an agreement under the Act. The collateral securing the advance must equal at least 125% of the principal amount of the loan and the collateral must consist of guaranteed student loans bearing interest at a rate not less than 7%. However, Sallie Mae may require a greater amount of collateral if credit considerations warrant. The primary responsibility for all administration and servicing of the student loans included in the collateral remains with the institution receiving an advance from Sallie Mae. Interest rates on loans for specified maturities under the Warehousing Advance Program are subject to change from time to time. The changes are made by Sallie Mae and reflect, among other factors, (1) the price at which Sallie Mae is able to obtain its funds, (2) the cost relative to other sources of funds for potential borrowers, (3) general money market conditions, (4) the demand for loans under the

Warehousing Advance Program, and (5) the statutory purposes to be served in making funds available to qualified institutions at reasonable rates. Rates on maturities different from those announced by Sallie Mae may be negotiated on an individual basis. Interest is payable quarterly on all advances currently being made by Sallie Mae under the Warehousing Advance Program.

Advances made under the Warehousing Advance Program are currently required to be reinvested in additional student loans by the borrower within 12 months or less of the date of such advance. Sallie Mae requires borrowers under the Warehousing Advance Program to document periodically their compliance with this requirement.

The Federal Reserve Bank of New York has determined that Sallie Mae is an "agency of the United States" for purposes of Federal Reserve Regulations, so that obligations issued to Sallie Mae by member banks are exempt from the interest rate ceilings and reserves need not be maintained against the proceeds of advances received by member banks from Sallie Mae.

The interest rates at which loans have been made under the Warehousing Advance Program to date have varied from 7.70% to 8.50%. Of the aggregate amount of \$101.88 million of loans outstanding under the Warehousing Advance Program as of March 31, 1974, a total of \$57.5 million was loaned at an interest rate of 8.50%, \$2.5 million was loaned at 8.375%, \$4.6 million was loaned at 8.125%,

\$20.18 million was loaned at 7.875%, \$100,000 was loaned at 7.75% and \$17 million was loaned at 7.70%. The dollar weighted average interest rate (coupon rate of return) for all loans outstanding as of March 31, 1974 was 8.22% and the average weighted maturity was 23.1 months. As of March 31, 1974, approximately \$10.865 million in additional loans was pending settlement.

A total of 29 borrowers are currently participating in the Warehousing Advance Program. Of this number, 21 institutions are commercial banks and thrift institutions and 8 are colleges, universities and vocational schools. Of the \$101.88 million loaned as of March 31, 1974, commercial banks and thrift institutions borrowed \$67.53 million or about 66.2% of the total amount. Vocational schools as a group borrowed the major portion of the remaining \$34.35 million. Advances to a single borrower have ranged from \$100,000 to \$30 million.

In order to gain working experience under the Warehousing Advance Program, Sallie Mae initially limited the Warehousing Advance Program to those participants which were in a position to borrow at least \$1 million. That minimum requirement has subsequently been reduced to the point where Sallie Mae is currently considering requests for advances in amounts as low as \$100,000.

Sallie Mae's experience since the commencement of the Warehousing Advance Program has revealed that certain specific factors bear upon the response to the

Warehousing Advance Program by qualified lenders, and thus on the growth of the Warehousing Advance Program. These factors include (1) the demand for insured student loans in the locality from which a particular qualified lender draws its clientele, (2) the rates at which Sallie Mae will advance funds under the Warehousing Advance Program, (3) the size of the special interest allowance payable to the qualified lenders by the United States, (4) the fact that many institutions receiving advances under the Warehousing Advance Program are not permitted to condition the making of a student loan on the basis of the existence of some other business relationship by the student or his family with the qualified leader, and (5) the fact that advances made under the Warehousing Advance Program must be reinvested in guaranteed student loans within one year or less from the making of the advance.

Loan Purchase Program

In February, 1974, the Board of Directors of Sallie Mae approved a new program involving the purchase by Sallie Mae of existing insured student loans from qualified lending institutions under the GSLP. Under this program, (the "Loan Purchase Program"), as presently envisaged by the Board of Directors and the management of Sallie Mae, Sallie Mae negotiates with qualified lenders under the GSLP to purchase all or a portion of their guaranteed student loan portfolio on such terms as are

negotiated. Under the Act, proceeds of the sale of guaranteed student loans to Sallie Mae need not be reinvested by the seller in additional student loans. Although the details of the implementation of the Loan Purchase Program are still under consideration, it is expected that the first phase of the Loan Purchase Program will be conducted in the following manner. Sallie Mae will first distribute informational materials about the Loan Purchase Program to qualified lenders under GSLP. Upon the subsequent receipt by Sallie Mae of any indication of interest on the part of a prospective seller, Sallie Mae will request a detailed description of the seller's existing insured student loan portfolio and servicing practices. Active negotiations for the purchase by Sallie Mae of specific guaranteed student loans held by the prospective seller would commence only after the receipt and evaluation of such information by Sallie Mae.

In the administration of the Loan Purchase Program, Sallie Mae may consider, among other factors, the need to make the Loan Purchase Program available on a broad geographic basis and the past default experience of particular institutions in reaching a determination as to whether loans will be purchased from particular institutions and the amounts and terms of such purchases.

Definitive terms and conditions applicable to purchases of guaranteed student loans under the Loan Purchase Program, including pricing policies and types of loans to be purchased, have not as yet been determined. It is expected

that a significant number of the terms and conditions of each purchase will be the subject of negotiations between Sallie Mae and the prospective seller. However, Sallie Mae has determined that it will require a right of recourse with respect to loans purchased which may be denied the insurance benefits, interest benefits, or special allowance as a result of actions or omissions on the part of the seller or originator thereof. Sallie Mae does not currently contemplate servicing any of the purchased loans itself but will contract either with the seller or with a third party for the performance of all necessary servicing, subject to requirements and guidelines to be established by Sallie Mae.

The contemplated establishment of a secondary market in guaranteed student loans will be a new activity and neither Sallie Mae nor the great majority of the prospective sellers have prior experience relating to the purchase and sale of such loans. It is anticipated that the details of the Loan Purchase Program will undergo continual change and refinement as both Sallie Mae and the prospective sellers become more familiar with the special problems and concerns relating to the purchase and sale of guaranteed student loans which become apparent as the Loan Purchase Program matures. Both the response to the Loan Purchase Program by prospective sellers and the profits or losses which may accrue to Sallie Mae through the operation of the Loan Purchase Program, as well as any additional purchase programs instituted by Sallie Mae, will depend on various factors including, but not limited to (1) the prices at

which prospective sellers are willing to sell all or portions of their student loan portfolios, (2) the price at which Sallie Mae is able to obtain its funds, and (3) general money market conditions.

Special Interest Allowances to Lenders

It should be noted that the profitability of the Sallie Mae organization depends considerably on the continuation of interest subsidies from the Federal Government. Under the Emergency Insured Student Loan Act of 1969, as amended ("EISLA"), the United States is authorized to pay to holders of loans under GSLP after the end of each quarter a special allowance consisting of additional interest on the outstanding principal amount of insured loans at a rate not in excess of 3% per annum to the extent, if any, that the Secretary of HEW determines that the limitation on the allowable rate of interest on loans under GSLP, in the light of then current money market conditions, is impeding or threatening to impede the carrying out of the purposes of the Act and has provided a less than equitable rate of return during such quarter. The amount of the allowance is determined at the end of each quarter by the Secretary of HEW after consultation with the Secretary of the Treasury and the heads of other appropriate agencies, and applies to all outstanding loans eligible for the special allowance. The allowance is payable, if the loan is otherwise eligible, whether or not an interest subsidy is then payable as to

the loan. The Secretary of HEW is empowered to set differing rates of special allowance for different regions or classifications of lenders, but thus far has never done so. EISLA presently applies only to loans made after July 31, 1969 and before July 1, 1974. However, if EISLA is not extended, the special allowance would nevertheless be payable after that period as to loans made during that period.

THE 1974 NOVA SCOTIA ROYAL COMMISSION ON
THE REFORM OF UNIVERSITY FINANCING

The Nova Scotia Royal Commission on Education, Public Services and Provincial-Municipal Relations, first appointed under the Public Inquiries Act of March 1971, published findings. Its task was the wide one of examining education and other public services that municipalities are presently providing in whole or in part, or that they might provide. The part of its Report dealing with higher education is particularly lively and has unusual interest for those involved in the current debate about the share of higher education costs between taxpayers and consumers.^{1/} Although referring generally to post-secondary education the Commission concentrated on the universities because "they affect and are affected by the public school system. Further, the universities draw on large and, particularly in recent years, rapidly increasing amounts of public resources. We also deal with the universities because of their involvement with teacher education and with many aspects of continuing education...."^{2/}

This article attempts a critical assessment of the higher education section of the Commission's Report. Section 1 presents selective quotations that give the general tone and

^{1/} The Royal Commission Report will be referred to hereafter as : N.S. Report. Copies can be obtained from the Queen's Printer, Halifax, N.S. The Office of the Royal Commission is 1226 Lemarchant Street, Halifax, N.S. Telephone 424-5914. The Chairman of the Commission is John F. Graham. The rest of the Commission consists of Edwin C. Harris, Charles E. Walters, and Lawrence E. Sandford (secretary).

^{2/} Summary reports of Chapters 61 to 65, vol. I.

Philosophy. Section 2 summarizes the basic economic analysis and policy proposals. Section 3 contains our critical evaluation.

SECTION I : General Philosophy

To appreciate the general tone of the Commission's argument it will be helpful to reproduce one or two of its wide ranging and 'philosophical' observations. The Commission stressed that although it must be recognised that universities were essential and valuable institutions that needed to be well supported and required large amounts of freedom, it was necessary to insure that they used the public funds provided for them effectively and economically in accordance with their purposes as institutions for higher intellectual study. It was emphasized that the broad purposes of the university first required careful delineation as an essential step in the solution of the problems of university finance. Universities in recent years had shied away from clear expression of their goals, and had tended to move away from performing what the Commission believed to be their essential functions. Universities had passively responded to higher and higher enrolment projection without enquiring too closely whether all the prospective students wanted, or could benefit from, that type of education which is special to universities. The principal incentive of many students meanwhile had been, not to obtain a higher education in the traditional sense, but to obtain the certificates that would make them employable. Yet the real function of the universities was to serve the needs of the minority of people that was able to pursue new knowledge and was interested

in pursuing it. It was true too that, in some instances, another function was to prepare people for "the intellectually demanding professions." The universities however had generally obscured their true purposes; consequently, they were failing to function adequately. Moreover, because they were crowded with students who were not suited, they could not adequately serve students who are suited for university studies, a waste of public resources was the result. Universities should not have to depend on attracting large numbers of students without having regard to whether they were capable or interested in advancing and preserving knowledge and the pursuit of higher intellectual study.

SECTION 2 : Economic Analysis and Prescription

The Commission recognised that there were private as well as public benefits from university education and there was urgent need to devise the appropriate share of the costs between government and students. The university itself should be able to contribute to much needed clarification on optimum sharing. If the university expressed its purposes and needs more lucidly it would obtain much better support from outside. "A university, of all institutions, should be able to explain itself clearly, intelligently and articulately. Its responsibility to do so is no burden, since it is in the best interests of both the university and the public. Indeed, the public interest is the universities own interest. The government cannot hold the universities accountable unless it knows why it is supporting them. The public cannot hold the government accountable for the use of the public funds devoted to universities unless there are criteria for evaluation.

Neither the public or the government are likely to be able to formulate fair and effective criteria for accountability without the assistance of the university".^{3/}

The Commission reached the conclusion that the activity at universities that generated the largest element or social benefit was research and related study. This item therefore should be financed largely by the public. At the same time, undergraduate, graduate, and professional instruction costs, which carry a very large element of benefit to the individual student, should be born principally by the student. Fifty percent of total university expenditures on graduate, medical, and dental studies were not attributable to specifically financed research. This was considered a reasonable proportion of the institutional costs that should be born by students in these fields. Other students, such as the general arts undergraduate, should pay for 80 percent of the cost of their programs.

Although the plan was intended primarily for Nova Scotia the Commission recognised that it could not work effectively unless it was adopted by a large part of Canada as a whole; for unless all or most provinces adopt a similar policy "Nova Scotian students would, for the most part, take their university education in another province, with an extremely serious and perhaps fatal effect on the universities in Nova Scotia". The Commission therefore

^{3/} Volume I, Summary, final page.

urged that the plan should be considered for urgent general provincial and federal approval. It recognised that even when wide agreement is reached the plan will have to be implemented gradually. The universities would require sufficient transitional assistance.

The universities and other post-secondary institutions provide only for a minority of population. If advanced education and training at universities (ie., after say the third year of university) is pursued with the idea of entering an occupation or specific profession, or even to obtain an education for its own sake, the student should be expected to pay for it. "The function of government is not to pay all or most students costs, but to insure that they do not suffer from restrictions in the capital market which normally prevents borrowing against future earnings". ^{4/} The present system has perverse effects on income distribution. "Far from serving the goal of equal opportunity and a less unequal income distribution, the public subsidies to the university student effect substantial income transfers in a different direction; from persons that do not attend university to those that do. And, as the mass of recently conducted quantitative studies has demonstrated, the average lifetime income of recipients is substantially greater than that of their benefactors". ^{5/}

The essence of the Nova Scotia Plan finally proposed by

^{4/} Chapter 64, page 45.

^{5/} Chapter 64, page 46. Our italics.

the Commission is that those who study for first degrees should be charged 80 percent of the tuition costs; graduate students should be charged 50 percent of their tuition costs. To enable students to cover the increased fees, a greater dependence on loans is recommended; although the first year of university will be largely free because this is usually a year of experiment. The system of loans, however, is to be supported by a new program of student aid. Grants will be made to poor students in order to insure that their total debt for undergraduate education is not significantly higher than that incurred by the average student. Loans to students would be interest-free during the period of study, and for five years thereafter. The loan forgiveness will be provided in certain cases to increase the number of graduates of specific programs who are practicing, or are employed, in Nova Scotia. The loans should be large enough to provide not only tuition but also a reasonable amount to cover living costs. The interest rate to be charged after 5 years completion of university studies is the current market rate for commercial loans. The intention seems to be a vastly extended reliance on the Canada Student Loan Plan as it is presently structured. The Commission explicitly rejected a switch to an income contingent loan scheme.

The general tenor of the Commission's Report is in line with that of the Commission on Post-Secondary Education in Ontario, (the Wright Commission) 1972. The move to reduce inequality in students' subsidy that the Wright Commission (unsuccessfully) attempted, is repeated to some extent in the Nova Scotia Plan's

provision that the first year of education shall be largely free. Thus most of the students who have only one or two years university education will have subsidies nearly equal to those who stay on for three or four years. The Nova Scotia Commission defends the Wright Report against those critics of it who emphasize that the costs of teaching and research cannot be separated. The Commission acknowledges that such criticism certainly brings attention to the importance of the interdependence of teaching and research and the difficulty of measuring precisely the contribution or cost of each. Nevertheless, "it is incorrect to contend that because they are interrelated they cannot be divided at least roughly, and on average, for costing purposes. In our division we took into account, in determining the amount that should be allocated to teaching costs, the extensive benefits that research contributes to the quality of teaching. We also took into account that instruction is of very considerable value to research".

The flavour of the Commission's Report is also reminiscent of the Wright Commission in its challenging manner and candour. It reveals for instance that the total public investment in educating PhD's at Dalhousie University for the past 5 years has been in the neighbourhood of 7 million dollars; with a cost per PhD graduate of almost 58 thousand dollars! The Commission's estimates of the costs of graduating masters typically range from 10 thousand to 30 thousand dollars per successful graduate. Much of the excessive cost is due to high wastage or drop-out rates. "To a considerable extent, students not suited to or interested in

the rigorous discipline of higher levels of academic work may have been induced, whether by their own aimlessness, pressure from their undergraduate teachers, the lure of a higher level certificate, difficulties in finding employment or other social pressures to enrol in graduate study."^{6/} The Nova Scotia Commission, seems keen to focus upon those public benefits and costs that are at the margin. The precise question the Commission is asking is whether the increases in university students to be expected in the next few years will generate substantial marginal benefit to taxpayers. "The choice is not between the present scale of university financing and activities on the one hand and no universities whatever on the other. The policy decision does not concern all or nothing; it concerns more or less."^{7/} Again the Commission in principle emphasizes that the most important equity consideration is the relationship between the user and the low income non-user. In the Commission's words; "....Since there is no generally accepted rule of ethics that income should be taken from low income groups and transferred to high income groups, the subsidy to the university students could be justified only as an investment by those who do not attend the university. In fairness the latter should be entitled to decide for themselves whether they wish to make the investment."^{8/} Moreover there is a presumption of proof that the external benefits do exist and are substantial.

^{6/} Chapter 64, page 56.

^{7/} Chapter 64, page 50.

^{8/} Chapter 64, page 53.

"We should also be rid of the notion that the student is doing anyone except himself a favour by attending the university, and that he or she is necessarily a better citizen for having done so." 2/

SECTION 3 : Critical Evaluation.

Generally our criticisms relate to inconsistencies in the Report. We shall start with the least important of them. The Commission wants universities to concentrate upon their legitimate purposes, such as the generation of new ideas, research and the best academic teaching. These purposes, it argues, have been neglected by attempts to ally the universities with the growth and direction of the economy. Yet the Commission itself ultimately reserves a substantial government manpower planning element for its system of university financing. It proposes that if there is an inadequacy of persons in certain professions in Nova Scotia, a system of loan forgiveness directed at these groups specifically should be used to correct the imbalance. It is not clear that the intermediary body that the Commission proposes to supervise loan finance will have the time or qualification to make these large economic decisions. More important it is simpler, more accurate, and more discriminating, to bring about the required adjustments to the labour market by operating directly on the prices of the end-products of higher education. If for instance it was decided that

the earnings of teachers in Nova Scotia, though equal to their market value, were below their marginal value to society by an average of about \$1000 per annum, there would be a case for increasing the province's stock of teachers until this discrepancy vanished. The direct approach would be to increase teachers' salaries in Nova Scotia by \$1000 per annum. This approach corrects the discrepancy and provides the exact incentive. The indirect method, which the N.S. Commission is advocating, depends upon making teacher training courses more attractive; and this by offering them below cost with offers of loans to students training to be teachers on cheaper-than-market terms. This method is more cumbersome and costly; for it involves estimates of the likely response of entrant numbers and extra subsidies to many entrants who will either drop out or will eventually undertake other professions.

The Commission does not discuss the connection between university efficiency and a greater "consumer choice". Yet it is implicit in the Commission's proposals that such competition will increase. If the students have to face considerably increased fees in the future then the proportion of university revenue coming directly from the student will also increase. The decision of an individual student to choose one particular university over another will therefore have much more financial implications for the institutions concerned. This being so it is likely that students preferences will be more respected. Assuming that the students are now predominantly of the type that are seriously aiming to profit from their education, their increased choice can be expected to improve efficiency in the normal sense of that term.

The Commission is very confident and explicit to what 'should be' the precise share of the costs between student and government, and in expressing its own normative judgements that the students share should be greatly increased. A value neutral, or positive, stance that it could have taken would have been to predict that the student share will be increased; and this by virtue of the political climate. It could have realistically assumed that the 'taxpayer resistance' that has featured the political process in the last few years will continue. Reinforcing the university's financial problem are the increases in cost that are due to the fact that education is a labour intensive industry. Thus the combined 'squeeze' on universities, whether we or the Commission like it or not, will have to resolve itself to a greater or less degree in increased contributions from students. This being so it could have focussed upon a search for solutions of the problem given these financial constraints.

The most serious inadequacy in our view is the failure of the Commission to give full justification for its flat rejection of the income contingent loan. Under this system the student contracts for an annual repayment rate that is specified in terms of the percent of income earned in the future. Only two major reasons for the Commission's rejection of this system appear; and neither of them stand up. The first is : "For many students, future earnings will be determined by their own abilities not by what level of university education they have achieved."^{10/}

^{10/} Chapter 64, page 79.

The meaning of this is obscure. Whatever his abilities, the student's chances of repaying from his lifetime income are incomparably better than paying from his current income. Moreover if his abilities are such that his lifetime income is not particularly large the typical contingency system will protect him. If there is 'no income' there will be no obligation to repay. Repayment can be made contingent upon achieving a certain minimum income. It can, for instance, be geared exclusively to taxable income. If a person doesn't earn enough to qualify him for income tax then he will not be obliged to make loan repayments.

The Commission's second argument against the income contingent loan is that students in programs that confer large monetary benefits are likely to have quite high debts. The same can be said however of the Canada Student Loan Plan that the Commission apparently wishes to use more heavily. That program fails insofar as it does not provide insurance for those individuals who, for one reason or another, do not succeed in earning the extra large monetary benefits. The Commission fails to notice that the improvements in the capital market that it says are socially necessary, include the need to improve in this very important aspect. It is also surprising that the Nova Scotia Commission seems to want to continue to rely upon the present form of loan plan despite its other shortcomings. These include its short period of repayment, its failure to provide graduated repayment elements, and its fairly serious and increasing default costs that have to be covered by taxpayers of all income groups

whether they use the higher education system or not. (Defaults are presently running at above 7 per cent of the value of annual payments due.)

A still more serious point is that what the Commission does with the right hand is largely undone with the left. It argues for a bigger student contribution to the operational costs but proceeds to give substantial subsidies to students through new direct grants (scholarships) and concealed subsidies. Having argued that the average lifetime income of higher education students is substantially greater than that of non-users (and taxpayers), the Commission inconsistently proceeds to an argument based on present income, and parents income. Having argued that "there is little justification for public subsidization of those who are going to enter the topmost economic strata of society,"^{11/} the Commission argues for special scholarships for those from "humble beginnings." No reason is given why such persons cannot repay their scholarships when they reach significantly "affluent endings." Yet the failure to do so is inequitable to those taxpayers with humble beginnings who remain in relatively humble circumstances for the rest of their life.

Apart from the subsidy needed to cover default costs, the largest 'concealed' subsidy is via the interest forgiveness procedure that the Commission proposes. Students will not pay

^{11/} Chapter 64, page 54.

interest during the course of their education and will be excused a further five years once they commence employment. Consider a student who eventually joins a high paid profession. Such an individual will have around seven years of education. Suppose he borrows \$1000 in the first of these years. On this sum alone he will enjoy freedom from interest payments for 12 years in total. The Commission is assuming that the relevant rate of interest is the commercial rate. Thirteen per cent would be a conservative estimate of this today. The present value of the interest forgiveness on a \$1000 loan, when discounted at the rate of thirteen per cent over 12 years, comes to about \$780. This is a remarkably high subsidy in view of the fact that the Commission believes "there is little justification for public subsidization of those who are going to enter the topmost economic strata of society." Moreover when we add to the subsidy the average costs of default and the administration costs the government could be receiving an almost zero rate of return on its loan. Furthermore the policy seems inconsistent with the Commission's own concern for some equity within the student class. Because candidates professions will have an education of longer duration they will also receive interest subsidization well in excess of the average student.

We conclude therefore, that whilst the Commission's initial reasoning showed some promising attempt to grapple with serious questions of efficiency and equity it becomes considerably emasculated at the stage of policy recommendation. Whether the Commission will revise its estimates in the light of such criticisms remains to be seen. Meanwhile it has done a service in throwing

down the challenge to other provinces to reassess the whole problem of university financing in general and student loans in particular.

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